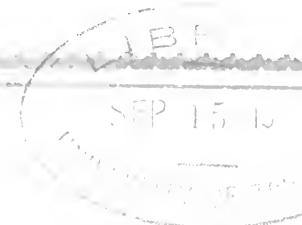


Science
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T W E N T Y - S E V E N T H
A N N U A L R E P O R T
of the BOARD OF TRUSTEES *of the*
P U B L I C M U S E U M



of the C I T Y O F M I L W A U K E E
S E P T E M B E R 1, 1908, T O A U G U S T 31, 1909

F E B R U A R Y 1, 1910





TWENTY-SEVENTH
ANNUAL REPORT
of the
BOARD OF TRUSTEES
of the
PUBLIC MUSEUM



of the
CITY OF MILWAUKEE

SEPTEMBER 1, 1908, TO AUGUST 31, 1909

FEBRUARY 1, 1910

BOARD OF TRUSTEES

CITIZENS APPOINTED.

E. W. Windfelder,	- - - - -	Term expires May 1913
Robert Nunnemacher,	- - - - -	Term expires May 1912
Geo. A. West,	- - - - -	Term expires May 1911
O. J. Habhegger,	- - - - -	Term expires May 1910

ALDERMEN APPOINTED.

Cornelius Coreoran,	- - - - -	Term expires May 1910
Henry Bulder,	- - - - -	Term expires May 1910
Henry S. Klein,	- - - - -	Term expires May 1910

EX-OFFICIO.

C. G. Pearse, Sup't of Schools,	- - - - -	Term expires July 1910
C. L. Aarons, Pres't of School Board,	- - -	Term expires July 1910

OFFICERS.

George A. West, President.	
Henry L. Ward, Secretary.	Ex-officio.

COMMITTEES

EXECUTIVE.

Otto J. Habhegger, Chairman,

Robert Nunnemacher,

C. G. Pearse,

Cornelius Corcoran,

Geo. A. West, Ex-off.

PURCHASING.

E. W. Windfelder, Chairman,

Henry Bulder,

Otto J. Habhegger.

FURNITURE.

Henry Bulder, Chairman,

C. G. Pearse,

Henry S. Klein.

EXCHANGING.

Robert Nunnemacher, Chairman,

E. W. Windfelder,

Henry S. Klein.

RULES.

C. G. Pearse, Chairman,

Chas. L. Aarons,

Robt. Nunnemacher,

BUILDING.

Henry S. Klein, Chairman,

Chas. L. Aarons,

Robert Nunnemacher,

Geo. A. West, Ex-off.

FINANCE.

Cornelius Corcoran, Chairman,

O. J. Habhegger,

E. W. Windfelder.

— — —

Henry L. Ward, Advisory Member of All Committees,

HONORARY CURATORS

Carl Hagenbeck, Stellingen, Germany,	- - - - -	Zoölogy
Albert von Hoffman,	- - - - -	Archeology
Chas. E. Monroe,	- - - - -	Paleontology
A. J. Shoenebeck, Lena, Wis.,	- - - - -	Oölogy
August Stirn,	- - - - -	Ornithology
E. W. Windfelder,	- - - - -	At large
Ferdinand Meinecke,	- - - - -	At large

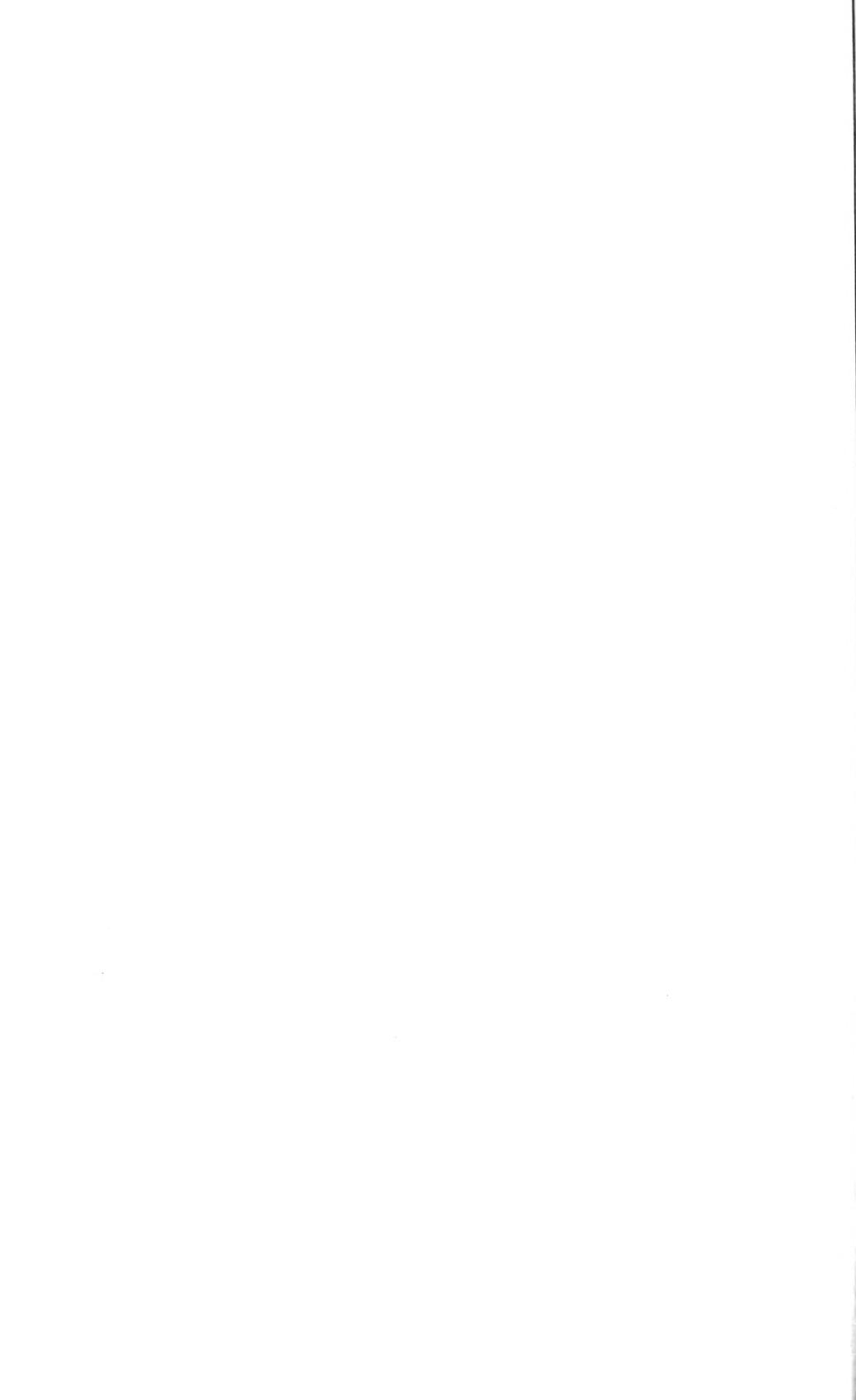
MUSEUM SERVICE

Henry L. Ward,	- - - - -	Director
S. A. Barrett, M. S., Ph. D.,	- - -	Curator of Anthropology
*Chas. T. Brues,	- - - - -	Curator of Invertebrate Zoölogy
Carl Thal,	- - - - -	Curator of Books
Alfred C. Burrill, M. S.,	- - - - -	Lecturer
A. C. Katze-Miller,	- - - - -	Guide Lecturer
Wm. B. Brickner,	- - - - -	Special Clerk
Geo. Shrosbree,	- - - - -	Chief Taxidermist
Paul C. Rohde,	- - - - -	Assistant Taxidermist
Herbert Clowes,	- - - - -	Modeler
R. A. Muttkowski,	- - -	Ass't Dept. of Invertebrate Zoölogy
Henry E. Eichfeld,	- - - - -	Attendant
Lydia Nehrling,	- - - - -	Attendant
Alice Pluck,	- - - - -	Attendant
L. P. Falconer,	- - - - -	Messenger
Philip J. Pier,	- - - - -	Janitor
Fred C. Ruck,	- - - - -	Chief Engineer

* Mr. Brues resigned at the close of the year and S. Graenicher, Ph. D., M. D., was appointed to take this Curatorship, beginning Sept. 1.



BLACK BEAR CUBS PLAYING



REPORT OF THE PRESIDENT OF THE BOARD OF TRUSTEES

MILWAUKEE, Wis. Nov. 6th, 1909.

To the Honorable the Common Council of the City of Milwaukee:

GENTLEMEN—In accordance with the provisions of Section 8 of Chapter 328 of the Laws of Wisconsin for 1882, the Board of Trustees of the Public Museum of the City of Milwaukee submits to you this, its twenty-seventh, annual report, covering the period ending August 31, 1909.

Besides the regular meetings of the Board each month, one adjourned and one special meeting were held, and a considerable number of meetings of various committees, especially of the Building Committee, have been convened.

The year has been one of unusual activities, in that much time has been spent on examining plans and bids and letting contracts for the addition to the edifice now building for the Historical Museum. This has required careful attention on the part of the Board, and much more time and study from the Building Committee, who are immediately in charge of the details of the work. Considerable delay in the erection of the building has been occasioned by the failure of the architects to prepare the necessary plans and specifications as they were needed, but the construction as far as it has progressed is of a thoroughly substantial nature.

There is a pressing necessity that the building shall be pushed to completion at the earliest possible moment in order that the work of the institution be not seriously interfered with and that the public may have full use of the collections that their money has purchased. The lack of available room has

already necessitated dispensing with the services of one of our taxidermists and is cramping the work in other departments.

In order to complete the building without suspending work upon it for some years, it will be necessary that your honorable body facilitate this by voting a small bond issue, the sinking and interest fund of which may be taken care of by deducting the requisite amounts from the annual appropriation made for this department.

It appears that there is a sentiment among a few in favor of establishing the Historical Museum in a separate building many blocks removed from the site occupied by this museum.

By act of the Legislature the two museums are under control of this Board of Trustees, by resolution of your honorable body the Historical Museum is a department of the Public Museum. For economy and efficiency of maintenance and administration there is no question but that these can better be secured by establishing a physical as well as a legal association of the two departments. When we consider the intimate relation of man to nature, it is apparent that much is to be gained by a close contact, permitting the visitor of one department to readily pass into the other, and particularly is this made apparent in the educational work that we are doing with the school children. Over twenty-five thousand children annually come to the Museum in regular school classes to receive lectures illustrated not only by the stereopticon, but by the actual specimens forming parts of our museum exhibits. The subject matter of most of these carefully studied lectures has to do not with what would be the contents of one of these museums only, but with both, and were they separated, as has been proposed, it would be out of the question to transport these children from one building to the other during their assigned period, and therefore the instruction given them would be much less effective than it now is. We strongly feel that there is much to be obtained from the intimate connec-

tion of the anthropological and natural history departments that would be lost by their separation.

The general condition of the museum has been maintained without notable change, due to lack of space for expansion. The collections have been cared for to the best of our resources and many important acquisitions have been made that will become available as soon as room for their exhibition shall have been provided.

The inventory stood as follows at the close of the year, August 31:

Mineralogical and geological specimens.....	8,635
Paleontological specimens.....	15,464
Botanical specimens.....	28,413
Zoological specimens.....	198,180
Anthropological specimens.....	27,196
Arms, armors, carvings and other objects contained in the Rudolph J. Nunnemacher collection.....	3,362
Coins, bank notes, medals, etc.....	2,977
Books, pamphlets, maps, etc.....	16,704
	300,931

The financial statements for the year are:

Balance in Museum fund, Sept. 1, 1908.....	\$11,294.54
Appropriation to Museum fund, Jan. 1, 1909.....	31,862.97
Appropriation from School Board.....	2,500.00

	\$45,657.51
Expenditures for maintenance and increase, less refunds	32,757.05

Leaving a balance on Sept. 1, 1909, of.....	\$12,900.46
Balance in Historical Museum fund, Sept. 1, 1908.....	\$115,627.70
Appropriation to Historical Museum fund, Jan. 1, 1909..	44,608.16
Sale of old houses on lot and stone coping.....	1,170.00

	\$161,405.86
Disbursements less refunds.....	44,009.53

Leaving a balance on Sept. 1, 1909, of.....	\$117,396.33
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Balance in the Rudolph J. Nunnemacher fund, Sept. 1.	
1908	\$1,362.21
Received interest on \$1000 of this.....	50.00
	<hr/>
	\$1,412.21
Disbursements for specimens.....	139.00
	<hr/>
Leaving a balance on Sept. 1, 1909, of.....	\$1,273.21

You are respectfully referred to the Director's report, soon to be published, for complete details of all of these and various other matters pertaining to the Museum.

We wish to express our thanks to those who by donation of specimens or otherwise have assisted in the work of the Museum and to the press for its notices of new exhibits, by which the public has been kept informed and its interest stimulated.

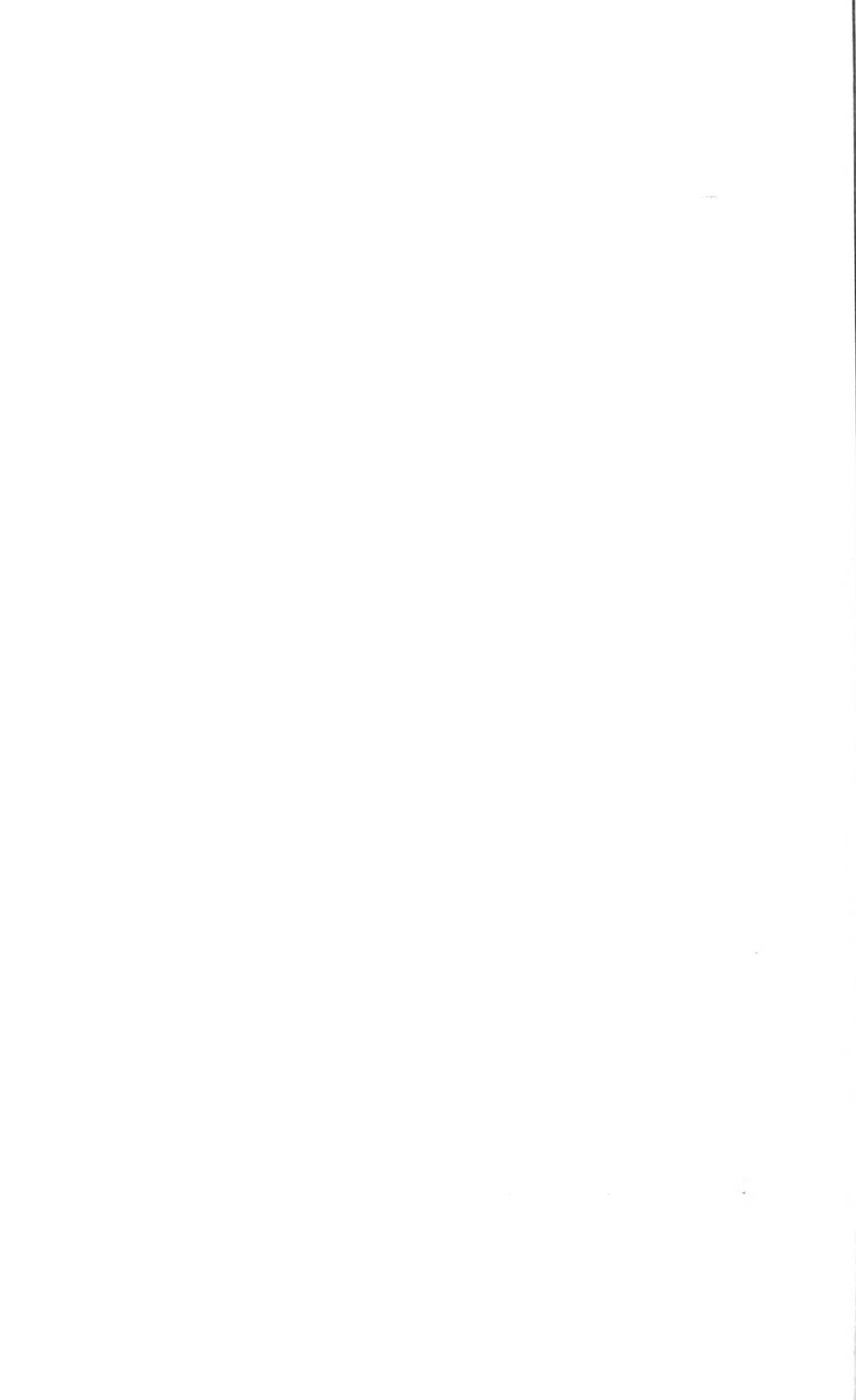
Respectfully submitted,

GEORGE A. WEST,
President, Board of Trustees.



CAST OF GREAT NORTHERN PIKE

CAST OF WOLF FISH



Report of the Director of the Museum to the Board of Trustees

GENTLEMEN—I herewith submit my report of the operations of the museum for the year ending August 31, 1909.

The year has been unmarked by the installation of important new exhibits, not because we were unprepared to make them, but because of lack of space. This condition will in all probability continue through the coming year, but as the addition to the building is now fairly started we are assured of ultimate relief from the present state of congestion, and so to some degree can maintain that spirit of optimism so essential to effective work which fortunately has been fairly characteristic of our personnel.

VISITORS.

The number of people visiting a museum in some degree indicates the value that it is to the community which it serves. Conditions are such as to render it impossible to register our visitors by means of turnstiles or by counting, as they enter through the outer doors, and for some years we have had no data as to this important matter. During the present year Mr. Muttkowski has taken up this subject in a careful, scientific way, and has arrived at what is believed to be a conservative estimate.

On Sundays the number has been computed on six counts of five minutes each, the first beginning at 2 P. M., half an hour after the doors are thrown open, so as to avoid counting any congestion of people awaiting an opportunity to enter, and every half hour thereafter to and inclusive of 4:30 P. M. The smallest Sunday attendance noted was August 15th, with but 954 visitors, a swelteringly hot day, with a violent storm

beginning about the middle of the afternoon. Only one other Sunday fell below 1,000, while the largest attendance for Sunday was 5,546, on March 7th, a bright, cold day. The average for Sunday attendance for the year was 1,662 people. The attendance is naturally less during the summer months than at other times of the year, for then not only do people wish to embrace the opportunity for out of door observation and exercise, but the population of the city is considerably reduced. Several holidays gave about 5,000, while for the five days of State Fair week the average daily attendance was estimated at 8,500. The average week day attendance, exclusive of Saturdays, was found to be 1,000. The yearly attendance, as arrived at by this method, was 514,866 visitors.

It is believed that this calculation is approximately correct and that any corrections required to make it exact would be as likely to increase as to decrease the total.

CHANGES IN STAFF.

In May the appointment of Samuel A. Barrett, M. S., Ph. D. in Anthropology (California), to the position of Curator of Anthropology was made. Dr. Barrett studied at the Universities of California and Columbia, filled a position in the anthropological museum of the former which afforded both museum and field work, and at the time of his appointment was returning to the United States from Ecuador, where he had been studying and collecting for Geo. G. Heye among the Cayapas Indians of Northern Ecuador. He has published through the University of California, *The Ethno-Geography of the Pomo and Neighboring Indians*, pp. 332, maps 2; *The Geography and Dialects of the Miwok Indians*, pp. 36, map 1; *Pomo Indian Basketry*, pp. 176, text figures 231, plates 17. His obligations to Mr. Heye, together with personal matters, prevented assuming his duties here prior to the expiration of the museum year.

The museum is about to suffer a severe loss by the resignation of Mr. Brues, Curator of Invertebrate Zoology, whose predilection for university work has caused him to join the faculty of Harvard University, his resignation taking effect at the close of this museum year.

Since first joining our staff in March, 1905, Mr. Brues has been of great value to the institution, not alone in his own department, but also in greatly aiding to build up the general scientific spirit of the institution; and it is with great regret that we consider his loss. In mitigation of this sorrow is our pleasure that he will be able, on a larger scale, to direct the investigations of students, for which he seems peculiarly fitted, and the indirect compliment paid the museum by Harvard in selecting one of our staff for its faculty.

In anticipation of Mr. Brues' separation, the appointment has been made of S. Graenicher, Ph. D., M. D. (Basel and Munich), to the same position to become effective September 1st. Although for many years a practicing physician, Dr. Graenicher has preserved his love for natural history which caused him originally to prepare himself in Europe to pursue it professionally, after which, as a more certain means of securing a livelihood, he took up the study and practice of medicine. For many years he has been honorary curator of Ichthyology and Herpetology of this museum, devoting considerable time to scientific work in the department and the betterment of the exhibits; but notwithstanding his active interest in these lines he has been even more engrossed with the study of bees and their relations to flowering plants.

At the beginning of the year Anton C. Katze-Miller, a graduate of the Whitewater Normal and post-graduate Milwaukee Normal School, with one summer course of science at Chicago University and twenty years' experience in teaching in public schools, was appointed Guide Lecturer to pilot about and instruct school classes in the museum.

The previously mentioned lack of space, compelling the cessation of installing taxidermic exhibits, rendered our force in this department too large for the available work, and therefore the services of Mr. Brandler were dispensed with on July 1st. It had been hoped that the addition to the building would be completed in time to obviate the necessity of reducing our working force, but unfortunately there now seems to be no possibility of its being done in time.

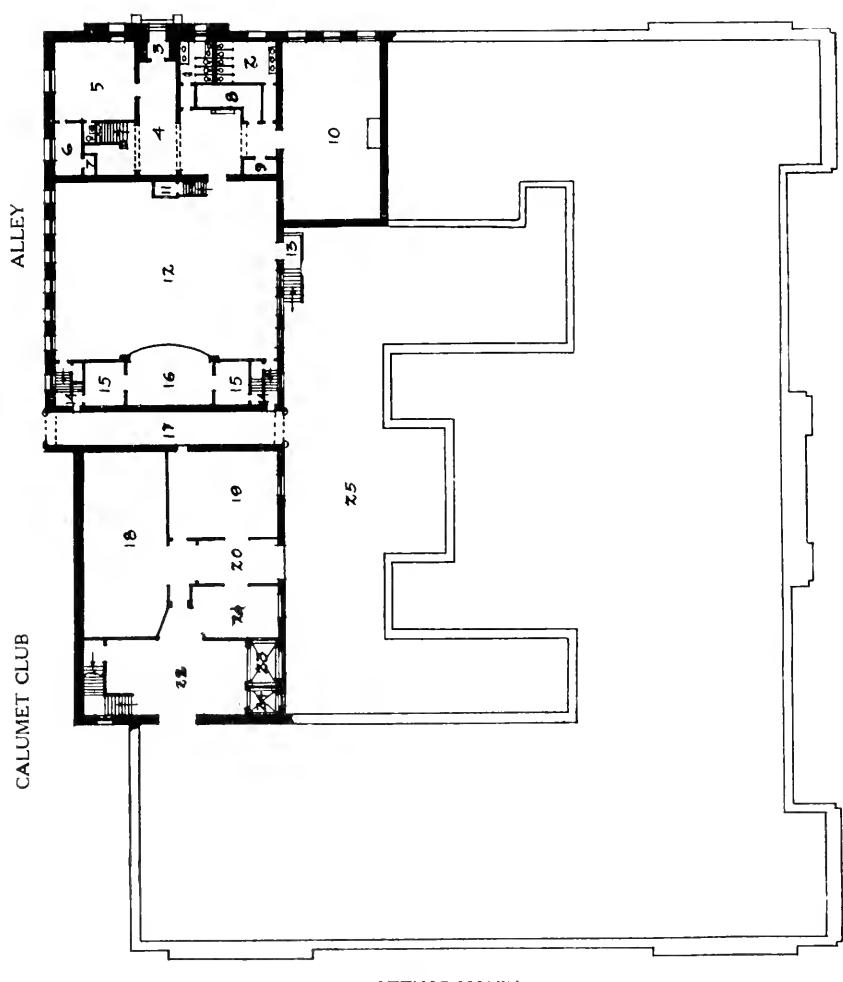
NEW BUILDING.

In the latter part of December the first contract for the construction of the addition to the building was let, followed later by other contracts which cover merely the shell of the building without composition roof, interior finish or fittings, or the stone carving of the exterior.

The contracts let, other than those for architects, general and steel inspection, and advertising, are as follows:

Grading	\$215.00
Excavating and concrete foundation walls less \$1,395.09	
credits	13,261.91
Excavating omitted from above contract. at \$1.50 per	
cubic yard, estimated at approximately.....	1,200.00
Sewerage	2,673.88
Brick, concrete and steel work.....	93,740.00
Cut stone and setting.....	37,395.00
Sheet metal: gutters, cornices, skylights, etc.....	5,700.00
Carpentry: masons forms, windows, etc.....	4,900.00
Painting and glazing: windows, cornices, etc.....	1,740.00
Extending chimney fifty feet.....	900.00
	<hr/>
	\$161,725.79

The foundation was in by April, but, due to the negligence of the architects, plans for the superstructure, which should have been finished last September, were not ready for the bidders until May 10th. The first bids were rejected by the Board of Trustees. New bids were advertised for on May 13th,



**Museum and Library Building
Basement Plan Showing New Museum Addition**

Scale: One inch equals about sixty feet.

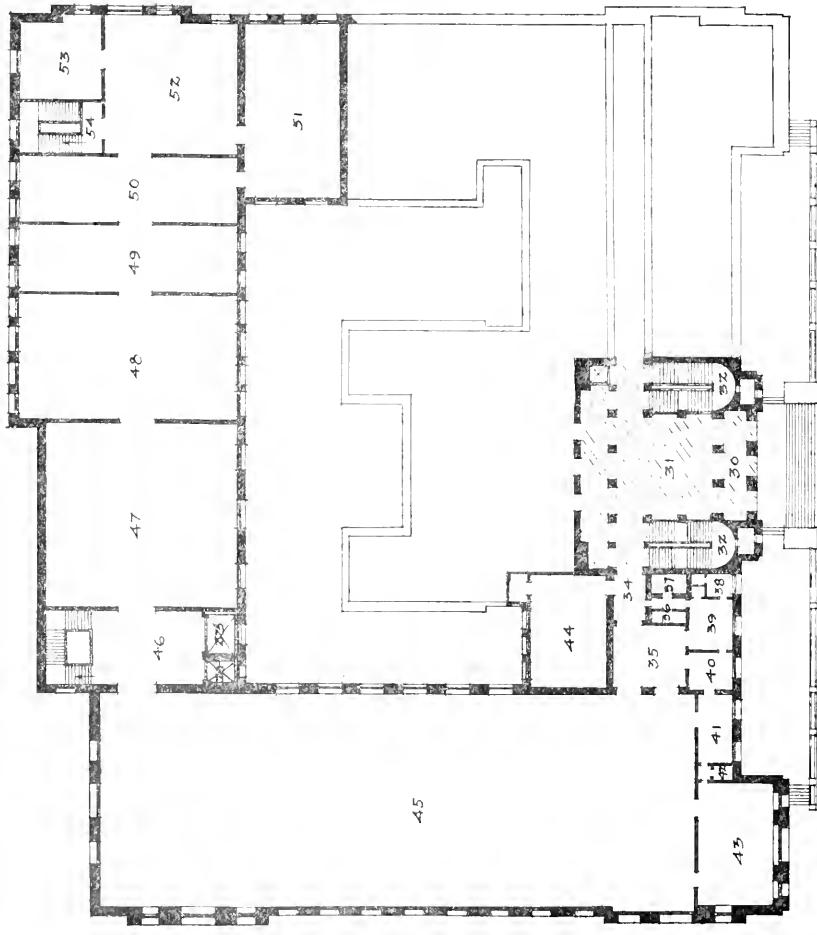
BASEMENT.

The heavily drawn portion is the new addition. The building faces on Grand Avenue and is bounded on the east by Eighth Street, on which the addition faces, and on the west by Ninth Street.

1. Men's toilet.
2. Women's ".
3. Entrance.
4. Lobby.
5. Small reception room.
6. Kitchen.
7. Pantry.
8. Coat room.
9. Janitor's closet.
10. Assembly hall.
11. Projection lantern room.
12. Lecture Hall.
13. Exit to courtyard.
14. Exits to tunneled driveway.
15. Ante rooms.
16. Stage.
17. Driveway, bridged by first floor.
18. Storage room.
19. Carpenter shop.
20. Receiving hall.
21. Casting shop.
22. Stair hall.
23. Freight elevator.
24. Passenger ".
25. Courtyard.

CALUMET CLUB

ALLEN



First Floor Plan, Distinguishing Museum from Library Portions of Building

FIRST STORY.

The heavily drawn, unshaded portion, represents the Museum, the light lines indicate the Public Library, and the shaded portion (30 and 31) the outer vestibule and rotunda on Grand Avenue common to both.

- 33. Freight elevator.
- 34. Passenger ".
- 30. Outer vestibule.
- 31. Rotunda.
- 32. Stairways.
- 33. Hallway.
- 35. Lobby.
- 36-41. Offices.
- 42. Private stairway.
- 43. Museum's Library.
- 44. Trustees' room.
- 45. Mammal Hall.
To be used later for anthropological exhibits.
- 46. Stair hall.
- 47-52. Exhibition rooms, new.
- 53. Reception room.
- 54. Stairway extending only between basement and first story.

ALLEY

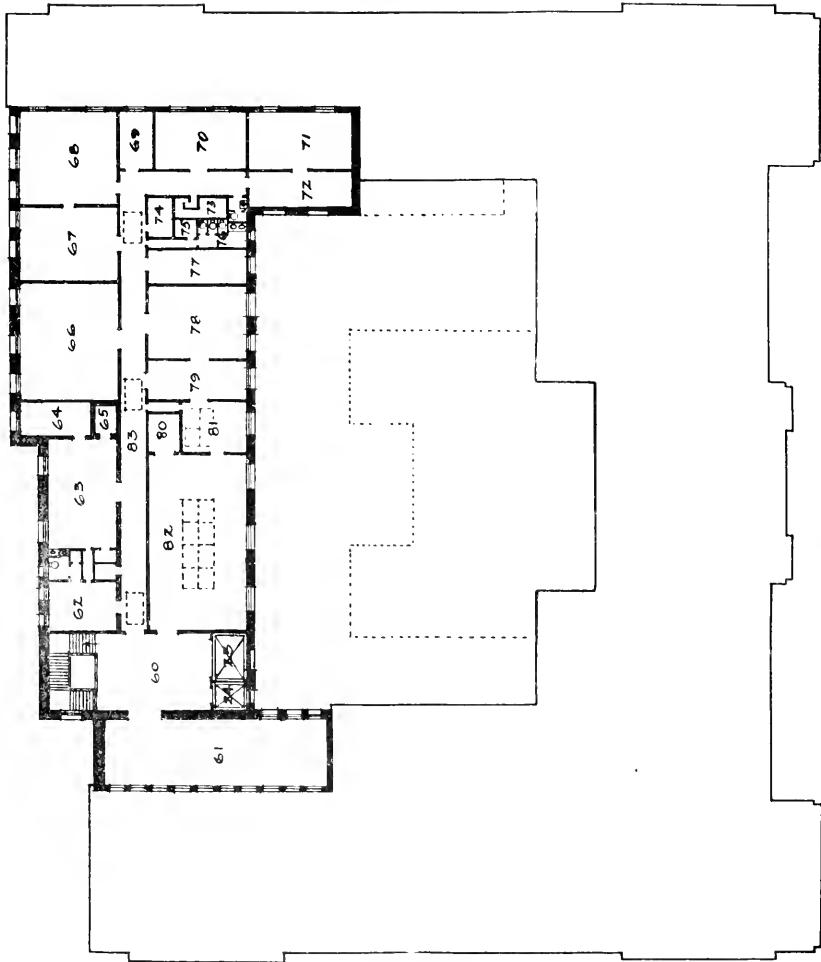
CALUMET CLUB

EIGHT STREET

NINTH STREET

GRAND AVENUE

**Fourth Floor New Museum Addition
Offices and Laboratories**

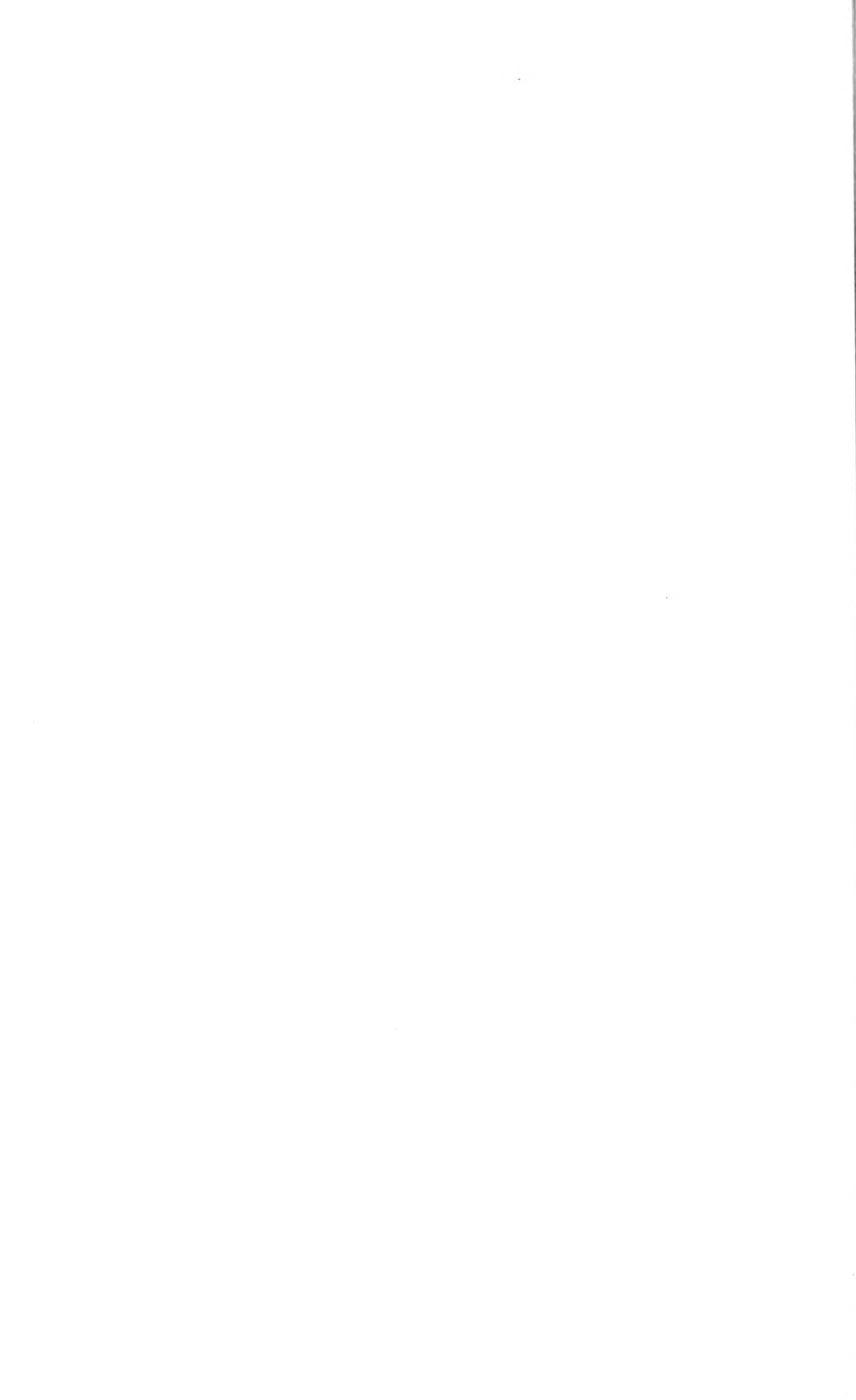


FOURTH STORY.

These rooms extend a story higher than the flat roof of the old structure and therefore are kept back thirty feet from the street line in order not to injure the architectural effect as seen therefrom.

The light lines indicate roof; the dotted lines are roofs of book stacks of Public Library two stories below.

23. Freight elevator.	67. Herbarium, drawn too wide.	75. Shower baths.
24. Passenger ".	68. Invertebrate Zoology, Office and Laboratory.	76. Men's toilets.
60. Stair hall.	Drawn too narrow; is same size as 66.	77. Reptile, Faunachian and Fish laboratory.
61. Library.	69. Public Instruction.	78. Geological laboratory.
62. Director's office.	70-71. Anthropological offices and laboratories.	79. Osteological "
63. General office.	72. Anthropological modeling room.	80. Taxidermic store room.
64. Printery.	73. Photographic dark room.	81. Modeling laboratory.
65. Vault.	74. Store room.	82. Taxidermic "
66. Mammal and bird study room.		83. Hallway.



opened on May 28th, contracts authorized by the Board on June 1st, but active construction by the contractors was not begun until after the middle of July. The brick laying commenced on July 19th, the stone setting on August 12th, and the first steel was set August 27th. At the close of the month of August the walls of the building were basement high, except on Eighth and Ninth Streets, where they were delayed by the stone setters.

This addition will consist of a basement-story above ground, partially underlain by a sub-basement, above which will be three stories of exhibition rooms, surmounted by an additional story devoted to work rooms, offices and library. Its frontage on Eighth Street is $107\frac{1}{2}$ feet, with a total depth of 234 feet. The width of $107\frac{1}{2}$ feet is maintained for a depth of 72 feet, the width then becomes $74\frac{1}{2}$ feet for 83 feet and $64\frac{1}{2}$ feet for 79 feet, all outside measurements. The exhibition stories will, within the brick walls, give 17,040 square feet to each floor; the offices, work rooms and library, 16,447 square feet.

The basement will be occupied by a lecture room, with sloping floor, seating about 750 people, two smaller assembly rooms, and, in the rear, carpenter shop, casting, storage and packing rooms. Above the roof of the office and laboratory story will be a room for the maceration of skeletons or the doing of any malodorous work.

While we have been unable to find space for all of the laboratories that we would like, yet we anticipate that the structure as planned will prove fairly adequate and immeasurably more convenient than our present quarters.

Three plans are herewith printed, showing the basement, the first story and the fourth story, and the relations of the part now building to that in use. These plans serve to give a general idea of the structure, though in drawing them the architects have made several important errors in proportions; notably in the lecture hall in the basement, which is drawn

twenty-four feet too short for its width, making it square, whereas its dimensions are really 68x92 feet, and in the fourth story the laboratory of invertebrate zoology should be forty-four feet long instead of about twenty-nine feet as drawn. These plans were secured too late to allow of redrawing.

The lecture hall is kept free from pillars by the use of heavy trusses extending from floor to ceiling on the first and third stories, each supporting the floor of its own room, and that of the room above and forming the walls of room 49 and that dividing it from room 50 of the first story and a single similar room on the third floor. The second story has but one constructional division and may be partitioned later as found desirable. Room 49 between the trusses and room 50, between the east truss and a brick construction wall, are twenty-five feet wide and so will, we anticipate, serve very well for exhibition purposes.

The greater extension of the new part on the inner court faces south; and in order to avoid direct sunshine and secure satisfactory dispersion of the light it is planned to use horizontally ribbed plate glass in these windows.

Most of the details of interior finish and fittings are not yet definitely settled. The lecture hall will be heated and ventilated by air forced through ducts into the room; the rest of the building will have direct steam heating; the air will be removed by fans through shafts at one end, the intake being from windows.

It is intended to provide the building with a vacuum cleaning system, extending the same to the old portion of the museum.

It is our desire to have the finish simple, dignified, and as free from obtrusive architectural features as possible. Masonry floors of some sort will undoubtedly be used and considerable attention will be directed toward fire protection.

USE OF BOARD ROOM.

During the year this room has been loaned to and used regularly for meetings by eleven societies and associations, some of which have met a number of times a month, so that not infrequently the room was in use twice the same day, and on several occasions the school lecture room has been utilized when it was desired to hold meetings of two associations at the same hour.

The bodies periodically using this room, other than the Board of Trustees and its committees, are Federation of Civic Societies, Milwaukee County Medical Society, Milwaukee Froebel Union, Milwaukee Teachers' Association, Milwaukee Zoological Society, Principals' Association, Wisconsin Aid Society for the Blind, Wisconsin Archeological Society, Wisconsin Mycological Society, Wisconsin Natural History Society, Woman's School Alliance and its Executive Committee. Besides these regular occupants of the room, its use has been granted for occasional meetings of other associations.

A meeting of the Wisconsin Society of the Archaeological Institute of America, of which the museum is a member, was held here March 31st, at which Dr. Edgar L. Hewitt, Director of American Archaeology, delivered an address, illustrated by lantern slides, on the work of the Institute among the cliff ruins of the Rito de Los Frijoles.

INCREASE OF COLLECTIONS.

During the year there has been 463 accessions to the collections, embracing 15,727 specimens that were preserved, besides quite a number of live animals that were exhibited in that state, used as food for other animals or discarded after death, and so were not recorded. 809 specimens were exchanged or discarded during the year. The additions were acquired as follows: 680 by exchange, 1,569 by gift, 3,778 by purchase, and 9,700 by collection.

During the year two collecting expeditions were made. Mr. Brues collected for some weeks during the summer in Puget Sound and succeeded in securing a very valuable and interesting series of well prepared specimens, both marine and terrestrial, numbering in all 2,422 objects.

During six weeks of July and August an expedition was on Upper St. Croix Lake and the St. Croix River, in continuation of our plan of ultimately collecting in all parts of the state. This expedition partook somewhat of the nature of a training school, in that half of our force had never before engaged in such work, and it was thought desirable to give them some field experience.

The personnel consisted of Messrs. Shrosbree, Katzen-Miller, Rohde and myself of the museum force, and Dr. Graenicher as volunteer, besides my son and a cook-boatman secured in the region. The first and upper camp was a few miles north of Solon Springs, on Upper St. Croix Lake, and was within about a mile and a half of the St. Lawrence-Gulf of Mexico watershed. From here the expedition came down the St. Croix in boats by easy stages to Hudson, a distance of approximately 185 miles.

Many interesting specimens were taken, that, when carefully studied, will probably be found to increase the known fauna and flora of the state, and certainly will enlarge our knowledge of their distribution. In all, 5,380 specimens were secured and prepared on this trip.

DONATIONS.

"It is especially the privilege of wealth to further the enrichment of museum collections and their interpretation to the visitor." —*Bulletin, Museum of Fine Arts, (Boston)*.

The donations have, as usual, been a source of pleasure not alone because of their scientific or intrinsic value, but because they indicate an interest by the public in the institution.

The most valuable gift of the year has as yet not arrived, consisting at present in an order given by Mr. August Uihlein for a Rhinoceros and a Hippopotamus. Both of these are animals representative of important groups and so well known that their absence from our collections has long been felt. These specimens are to be collected in Africa by Carl Akeley at the expense of Mr. Uihlein.

From Tripoli Temple, A. A. O. N. M. S., we received a fine adult Bactrian Camel, also a desideratum, as other than a skeleton of a Dromedary this family has heretofore been represented only by the Llama.

The Park Commissioners have in their loss of animals at the Zoological Park remembered us as usual, and two monkeys, a fox and a California sea lion have been received from this source.

Mrs. Charles Franck expressed her interest in our small collection of musical instruments by presenting a melodion of a style in vogue about fifty years ago.

The following trustees have remembered the museum: During his usual visit to Germany, Mr. Robert Nunnemacher purchased and presented to the museum thirty-seven weapons and other antiques, and on his return secured for us one U. S. gold coin and two medals. Mr. Otto J. Habhegger gave a fine fluted Indian axe from Allentown, Wis., that had graced his private collection, while President George A. West presented an interesting series of rhyolite, chipped implements from near Marquette, Wis., and a scalp lock said to be from Mexico. These rhyolite implements are, as far as is now known, found in Wisconsin only in this one locality, and are interesting as seeming to indicate an isolated, intrusive culture.

EDUCATIONAL.

During the school year two illustrated lectures were given to each of the grades of the public schools from the fifth to

the eighth inclusive. The subjects chosen were, by grades, as follows:

Fifth Grades— Adapts of Man to his Surroundings.
Indians of the United States and Alaska.

Sixth Grades— Various Methods of Transportation Throughout
the World.
Natural Resources of Wisconsin.

Seventh Grades—Physical Geography.
Man and His Relations to Nature as conservator,
developer and destroyer of Natural Resources.

Eighth Grades— Insects and Birds in their Relations to Man.
Associations of Plants and Animals.

Each lecture was run continuously three times per day, for the number of days necessary to cover all the classes from the grade for which it was intended. The lecture periods were 9 and 10:30 A. M. and 1:30 P. M. From one to three classes, according to the number of pupils they contained, came at each period, as assigned by the Superintendent of Schools.

The lectures were profusely illustrated by colored lantern slides projected by an electric lantern. There are now on hand 1,885 slides and 1,365 negatives, most of which have been procured for this work.

Besides attending these formal lectures, classes, either before or after the lecture and under the supervision of the guide lecturer, visited the collections and were shown and told about the objects on exhibition that illustrated the particular lecture they were attending. By this means we feel that the efficiency of this work has been considerably increased. Two men and a boy devote their time to this work, almost exclusively, and Miss Nehrling spends much of her time in coloring the lantern slides. To assist in carrying on the work the School Board makes a payment of \$2,500 to the museum, which covers about half the expense entailed.

We have been unable to gauge closely what degree of efficiency has been attained, but on questioning teachers we

are assured that the children retain a good deal of useful information. We regret that the classes come in conformity to a definite prescribed schedule, rather than of their own seekings,—that attendance is compulsory, rather than voluntary and in response to a request from the teacher. However, we are pleased to have noted various instances in which scholars have teased their teachers to try and secure additional assignments for them; which goes to indicate that while in the first instance these lectures were not sought after and considered a privilege, as we would have wished, yet that they were appreciated and additional ones would have been so considered. We believe there would be a decided advantage in securing the correct psychologic attitude of the children previous to the lectures, rather than subsequent to them; but it seems impracticable to put this work on an ideal basis at present, and so must content ourselves with what measure of success we attain under existing conditions.

During the school year 437 lectures were given to 720 classes, containing 26,359 pupils and 720 teachers from public schools, and to 277 pupils and 18 sisters and priests from parochial schools.

360 loans, embracing 1,066 specimens from our loan collections, were made to schools during the museum year. Several mounted bats were prepared for the loan collections and considerable time spent in repairing birds and boxes used for this purpose.

Besides these lectures to school children, Mr. Burrill has addressed a number of clubs and associations, which may properly be considered as part of our scheme of public education, though in most cases these lectures were not given in the museum building. They were, omitting various addresses before the Natural History and the Archaeological Societies of which he is a member, as follows:

Value of Our Chief Insect Friends,

North Division High School.

Adaptions of Man and the Lower Animals,

Hey Daled Society, Sixth District School.

Evolutionary Transportation,

Milwaukee Teachers Association.

Commercial Transportation,

Commercial Geography Class, South Division High School.

Birds and Insects,

Biology Club, Milwaukee-Downer College.

Birds and Insects in Relation to Man,

Ladies' Social Culture Club.

Ecology of Plants,

Botany Class, Milwaukee-Downer College.

Erosion,

Physiography Class, Milwaukee-Downer College.

Natural Resources of Wisconsin,

Ladies' Social Culture Club.

Birds, a Natural Check on Insects, and Other Checks,

Wisconsin Audubon Society at Madison.

During the year Mr. Burrill published:

A Slave-Making Foray of the Shining Amazon (*Polyergus lneidus* Mayr), Jour. N. Y. Entom. Soc'y, Vol. XVI, pps. 144-151.

Lecture Work at the Milwaukee Museum, By the Wayside (Official organ of the Wis. and Ill. Audobon Societies), Vol. XI., pps. 67-68, 1 Plate.

Mr. Barnes, besides lecturing on Marine Zoology for several weeks at the Puget Sound Marine Station, presented at Madison a paper on

Fossil Insects,

Wis. Acad. Sciences, Arts and Letters.

Adaptions of Insects,

Milwaukee-Downer College.

Insects as they Effect Our Daily Life,

Fifth Street Settlement.

and various talks before the Wisconsin Natural History Society. His publications are enumerated in his report, which follows this.

Personally I have been more crowded with work than usual, as I have felt it incumbent on me to go into nearly every detail of plan and execution of the addition now building, and have therefore felt constrained to refuse such outside calls as interfered with my duties, consequently I have spoken but a few times.

Museum Collecting,

St. James Mens' Club,

Bird Architecture,

Milwaukee-Downer College,

Bird Architecture,

Arbor Day Address at Seventh District School,

Birds and Flowers,

Christian Endeavor, Immanuel Church,

and various addresses before the Archaeological and the Natural History Societies have comprised my efforts in this line.

I have published only the following notes and articles during the year:

Modern Exhibitional Tendencies of Museums of Natural History and Ethnography Designed for Public Use.

Trans. Wis. Acad. Sciences, Arts and Letters, pps. 325-342.

The American Elk in Southern Wisconsin,

Bull. Wis. Nat. Hist. Soc'y. Vol. 6, pp. 145-146.

Additional Records of the Alleghenian Least Weasel in Wisconsin,

Bull. Wis. Nat. Hist. Soc'y. Vol. 7, pp. 11-12.

Some Principles of Museum Architecture and Associated Details.

Proc. Amer. Ass'n Mus., Vol. 2, pp. 93-98.

The exchanges received for the Bulletins of the Wisconsin Natural History Society have for some years been received

by and became a part of the Museum's library without cost to the Museum other than the postage and labor entailed in the distribution of the Bulletin. This arrangement was hardly equitable and therefore during the present year an agreement was made with the Society by which the Museum assumes a portion of the cost of publication commensurate with the number of copies that it uses for these exchanges.

It is recognized that the Museum will probably ere long establish a scientific publication of its own, when this arrangement with the Wisconsin Natural History Society may be terminated or modified.

HISTORICAL.

Elsewhere we have written of the progress of the addition to the building, the completion of which will provide room for the development of anthropological collections and their proper exhibition.

Some time after the necessary land had, with the consent of the Common Council, been purchased, and with their authorization plans had been contracted for and partially prepared, the necessary permission to erect the addition was withheld because of the desire of some that the Historical Museum should acquire either of two large residences which are both situated some distance from the present edifice. In order to secure the requisite permission from the Common Council it was necessary to carry on a short campaign of education as to what a museum is for and what it consists of. That the residence buildings were unsuitable, that the cost of the erection of a separate building would be much greater than would be an equally commodious addition to the present building, and that the cost of maintenance and administration would be much greater in a separate building, and its usefulness, not only to the general public but especially to school classes, would be very much less, were facts easily demonstrated to the alder-

men seen; and when once they were convinced of the impropriety of making such a physical division their consent to proceed with the erection of an addition was promptly given.

During some of the discussions of this matter the opinion was expressed that the Historical Museum should confine itself to an exhibit of "muskets and cannon used in the Civil War," a concept that, to say the least, seems unorthodox to a museum man. Upon slight reflection, it should be apparent that an exhibit of such articles would be one of certain *things used* in carrying on the Civil War; but *in no adequate way would it explain the history* of that period—the character of the people taking part in it, the specific causes that led up to it, or the results of the struggle. It would be passive, not active; could be used to illustrate, but not of itself actively teaching; and, even if it were, what would be its use other than to keep alive that spirit of antagonism, engendered by the necessity of referring the moral questions involved to the unethical arbitration of arms, which for more than a quarter of a century caused these United States to be disunited in spirit?

With due honor to those Union soldiers who sacrificed life, limb or health in that regrettable, fraternal war, we feel that the glorification of the physical struggle to the exclusion of the moral and governmental questions involved would be a crass and crude treatment of a subject offering great and valuable educational possibilities. We anticipate that it can be so treated that the rank and file of our old soldiers will be fully satisfied, and yet that even the actual period of hostilities may bear its testimony to the glories of peace as well as those of war; and that when visited by a wearer of the Grey the exhibit may not rekindle feelings of hatred that fortunately have been mostly quenched. But we anticipate that the museum will be much more than a Civil War museum; that it will trace the history,—the making,—of those who took part in it and that of their successors. This we feel to be the only

scientific, dignified and adequate interpretation of our opportunities; and we anticipate that we will thereby meet with the approval of the public whose money supports it. In other words, we consider that, in its broad meaning, this department is anthropological.

During the year the collections of this division have been increased by 1,045 specimens.

The collections of Wisconsin Winnebago artifacts has been slightly added to by purchase, one collection of 148 archaeological and 74 ethnographical specimens collected some years since in the west was bought, but the most notable increase was the purchase of two collections containing 509 prehistoric copper implements. This brings the museum's collection of these objects up to 960 specimens, none of which are small, meaningless fragments, and many of which are notable specimens. It is believed that in this line the collection can hardly be excelled by any other.

RUDOLPH J. NUNNEMACHER COLLECTION.

Owing to lack of time to devote to this collection no systematic effort has been made during the year to increase it or alter the character of the exhibit.

During his sojourn in Europe Mr. Robert Nunnemacher secured and presented to the collection an interesting old gun that is a combination of both match and wheel-lock. Two old cross bows, three halberds and replicas of five others were among the various articles received from the same source.

MAMMALS.

In looking over our last report we notice that mention was made of the hippopotamus, rhinoceros and camel as being special desiderata; and, as if in substantiation of the efficacy of advertising our wants, we have already received the camel and are promised the hippopotamus and rhinoceros. Conse-

quently we wish to make known our special need for good mountable skins of adult male gorilla, chimpanzee and walrus.

During the year seventeen mammals were mounted and much of the work done on a group of timber wolves running down a deer, the finishing of which is left until we shall have room for its exhibition.

Among the mammals mounted was the Camel received from Tripoli Temple which made a satisfactory mount and is very welcome as supplying to the guide lecturer a much needed illustration of an important means of transportation and one of the means by which the inhabitant of the eastern desert regions are enabled to adapt themselves to their trying environment.

During the year 218 mammals were added to the collections, of which 176 were collected on the St. Croix expedition.

Among the specimens collected on the St. Croix trip were a fine series of Deer Mice of the species *Peromyscus maniculatus gracilis* and *P. leucopus noctboracensis*. This series with others of the same species and of *P. m. bairdi* taken in other parts of the state give considerable data as to the distribution of the various forms of Deer Mice in Wisconsin.

The known ranges in Wisconsin of various other species of mammals were enlarged by the collections made on this trip, so that not only were the Museum's collections, particularly the study collection, considerably augmented but the knowledge of the state's mammalian fauna was also added to.

BIRDS.

Three hundred and eighty-nine birds and one hundred and four nests and eggs were added to the collections this year, of which 194 were from the St. Croix expedition. Twenty-five specimens were mounted during the year, and much work has been done preparatory to abolishing the exhibition of these from shelves. It is the intention to make the new installation

by attaching directly to the backs of the cases by means of a bracket or hanger devised by Mr. Shrosbree and illustrated in the accompanying plate. We have hitherto used various means of supporting specimens, including birds, directly from the backs of cases, and believe that the general effect secured is superior to that obtainable by the use of shelving, so, in order to carry this out in a larger way and obviate the shortcomings of previously used methods, samples were made and steel dies manufactured from which they could be struck accurately and at slight expense. Four sizes have been made, ranging from one suitable for being used on a small twig supporting a humming bird up to one large enough and sufficiently strong to support the rock-work or branch on which a large pelican may stand. Some of these have been furnished to the Museum of the Brooklyn Institute of Arts and Sciences, where, we understand, they have also given good satisfaction.

One of the accompanying plates illustrates this hanger and its application to bird mounts. A hanger and socket of the third size is shown; the method of fastening the hanger to a branch, an artificial rock (cast in paper from an actual rock), and a representation of marshy ground. There are also shown mounted birds on these three kinds of supports fastened by these hangers to a vertical background. In case of a rock or ground mount, provision is readily made, by means of a shelf-like hollow bottom, shown beneath the board of the duck mount, for the storage of original labels or naphthaline. The brackets and sockets are stamped from steel, a different thickness being used for each size, and the screw holes are accurately punched by the dies. They fit together sufficiently tightly to ensure the stability of position of the finished specimen, no matter what leverage the branch may have, and their strength is limited only by the holding power of the screws fastening the sockets to the backs of the cases.



SHROSBREE SPECIMEN HANGER

Its Application and Use on Bird Mounts



BATRACHIANS, REPTILES AND FISHES.

Comparatively little has been done to the exhibits of these during the year. A cast of a wolf fish was made and placed on exhibition and a mould of a barn door skate was made, both being Atlantic fishes that had come in a fresh state into our markets. Three reptiles were mounted, and 397 fish and 176 reptiles and batrachians were added to the collections.

INVERTEBRATES AND BOTANY.

Mr. Brues' report on these departments will be found immediately following this.

PALAEONTOLOGY AND MINERALOGY.

One hundred and fourteen fossils and five hundred and sixty-one minerals and rocks were added this year. This has considerably increased the attractiveness as well as scientific value of the fairly good mineral collection already on hand. Among the more notable of these acquisitions are: Several fine malachites of various forms from stalactitic to velvety, azurites, tourmalines, a twin calcite showing phantom crystals, a very large specimen of orpiment, fine large cubes of marcasite, emerald, opal and a thin polished translucent slab of nephrite.

NUMISMATICS.

Sixty-three coins and medals have been received, mostly by presentation. The collection maintains its accustomed fascination for the public, and when we can safely do so we intend to make a stronger exhibit of American coins.

THE LIBRARY.

With the development of the analytical card catalogue, the books are becoming steadily more valuable to us and their use is constantly increasing.

The report of Mr. Thal covering the activities of the library follows that of Mr. Brues.

BUILDING AND EQUIPMENT.

The mosaic floors of the corridors, leading from the rotunda to the main second and third floor exhibition rooms, having become badly cracked and loosened, were torn out and new floors laid in slabs of Athens stone divided into panels bordered by Emperor's Red and Istrian marble. The new floors are much more pleasant to walk on, being less slippery than the mosaic, look practically as well, and cost much less than would new mosaic; and, we believe, possess the added virtue of being much more durable.

Three floor cases of two patterns and one wall case were secured for the north Nunnemacher room, all of which vary somewhat from previous designs.

Although it has been decided to have a stationary vacuum cleaning installation in the addition to the building and extend the piping to the old part of the building, yet our present necessities are such that a portable, electrically operated machine was purchased for immediate use.

The supervision of the so-called power department, covering that of the engineers, has remained with the museum this year instead of reverting to the library by rotation, as originally planned. This continuance was because of the adjustments required in connecting with the addition now building, which are more easily and efficiently made by an undivided management of the affairs of the department.

In order to secure better draft to the furnaces, thereby permitting the use of cheaper coal, the smoke stack was raised fifty feet in height.

The report of the engineer, Mr. Ruck, for the calendar year 1908, among other particulars, shows the following items:

Average external temperature of air.....	47.84°
Kilowatt hours of engines.....	292,720
Hours run of two main ventilating fans.....	8,492

Hours run of the three elevators.....	10,205
Coal consumed, lbs.....	2,618,150
Per cent. of ash.....	8.32
Expense of department—	
Salaries	\$6,926.06
Coal	3,596.54
Oil and supplies.....	249.67
Repairs	121.09
Total.....	\$10,893.36

In this connection it is interesting to note that during the year the largest lighting concern in the city submitted figures for lighting the building which alone amounted to a trifle more than the entire cost of the department, which, besides light, furnishes heat, ventilation, elevator power and the services of several trained engineers for the numerous jobs of installation and repairs that are necessitated in such a building as this.

INVENTORY.

At the close of the museum year the various collections contained the following number of specimens on hand:

8,634	Mineralogical and geological specimens.
15,464	Paleontological specimens.
28,413	Botanical specimens.
1,468	Protozoans, sponges, corals, echinoderms, etc.
101,539	Mollusks.
74,205	Insects.
787	Crustaceans.
809	Fishes.
1,363	Batrachians.
9,603	Birds.
6,434	Birds' eggs and nests.
1,972	Mammals.
21,690	Archaeological specimens.
5,506	Ethnological specimens.
3,362	Arms, armors, carvings and other objects of virtu, contained in the Rudolph J. Nunnemacher collection.
2,977	Coins, bank notes, medals, etc.
284,227	Specimens.
16,704	Books, pamphlets, maps, etc.

FINANCIAL STATEMENT OF THE MUSEUM.

Debit.

Balance in Museum fund Sept. 1, 1908.....	\$11,294.54
Refunded from Public Library.....	6,659.17
Refunded from Historical Museum fund.....	93.72
From sale of materials.....	27.73
Appropriation to Museum fund, Jan. 1, 1909.....	31,862.97
Appropriation from School Board.....	2,500.00
	<hr/>
	\$52,438.13

Credit.

Amounts paid by warrants on the City Treasurer since last annual statement was rendered:

Anthropology and Ethnology.....	\$1,837.50
Botany	4.10
Building Repairs.....	81.55
Cleaning Supplies.....	101.42
Furniture	1,788.22
Gas (Museum).....	11.60
Insurance	416.80
Invertebrates	200.00
Lamps	69.73
Library	269.35
Mammals	32.10
Minerals and Rocks.....	1,001.25
Miscellanies	434.67
*Pay Roll.....	26,948.30
Permanent Improvements.....	106.16
Photographic Supplies and Slides.....	410.30
Postage and Freight.....	305.40
*Power Department (Fuel).....	3,348.27
*Power Department (Gas).....	38.08
*Power Department (Materials).....	624.27
*Power Department (Repairs).....	38.30
Preparation Supplies.....	433.48
Stationery and Printing.....	373.15
Telephone	96.00
Traveling	98.96
Wages	313.28
*Water	155.43
	<hr/>
	39,537.67
Balance in Museum fund Sept. 1, 1909..	\$12,900.46

* Such parts of these expenditures as were incurred for the Public Library and were refunded by that institution appear in the Debits.

FINANCIAL STATEMENT OF THE HISTORICAL MUSEUM.

Debit.

Balance in Historical Museum fund, Sept. 1, 1908.....	\$115,627.70
From sale of old houses on building lot.....	1,165.00
From sale of stone coping.....	5.00
Appropriation to Historical Museum fund, Jan. 1, 1909..	44,608.16
Refund from Public Library for chimney extension.....	450.00
Refund from Sterling Engineering & Construction Co., for water used.....	57.23
	<hr/>
	\$161,913.09

Credit.

Amounts paid by warrants on the City Treasurer since last annual statement was rendered:

Advertising	\$417.29
Architects Service.....	3,000.00
Auctioneer's Commission.....	116.50
*Chimney extension.....	900.00
Excavating and concrete foundation work, less credits for work omitted and for sand from premises.....	13,349.73
Furniture	11.00
Inspectors pay.....	785.00
Land, one lot.....	20,000.00
Lumber	26.99
Mason, concrete and steel work.....	3,825.15
Miscellanies	7.47
Postage and freight.....	5.00
Printing	9.50
Sewerage	1,863.88
Steel Testing.....	31.28
Vacating Premises (Indemnification paid to tenants)	95.00
Wages	15.74
Water	57.23
	<hr/>
Balance in Historical Museum fund, Sept. 1, 1909	\$44,459.53
	<hr/>
	\$117,396.33

* Half of this amount was charged to the Public Library and repaid by them.

**FINANCIAL STATEMENT OF THE RUDOLPH J. NUNNE-
MACHER FUND.**

Debit.

Balance in the City Treasury, Sept. 1, 1908,.....	\$362.21
Annual interest paid to City Treasurer, Dec. 18, 1908....	50.00
	<hr/>
	\$412.21

Credit.

Amounts paid by warrants on the City Treasurer since
last statement was rendered:

For specimens,.....	\$139.00
	<hr/>
Balance in the Rudolph J. Nunnemacher fund in the City Treasury, Sept. 1, 1909,.....	\$273.21

Balance remaining at interest in hands of Nunnemacher estate..... \$1,000.00

As usual, the museum is carrying \$22,000.00 of fire insurance and \$25,000.00 boiler insurance is carried jointly by the library and the museum.

The building, furnishings, specimens and other property of the museum has been conserved to the best of our abilities and will be found in a fair state of preservation. We have been greatly hampered in the care of specimens not on exhibition because of the lack of facilities to store them where they can be protected from deterioration and can be readily examined from time to time. Only when the addition can be occupied will there be any improvement in this.

The work of curators and preparators has also been badly handicapped by lack of necessary space in which to carry on their work; a condition that is continuously becoming more acute, due to the increasing encroachment of study and storage collections and exhibits partially completed for rapid installation on their working room. The effects on the staff of these hindrances to efficient work are largely mitigated by the general good humor with which they are borne in the knowledge

that more idealistic conditions will soon be secured. Much credit is due them for maintaining a high average *esprit de corps*.

I wish to record my appreciation of the confidence that you have reposed in my administration.

Respectfully submitted,

HENRY L. WARD,

Director.

Department of Invertebrate Zoology

The year just passed has witnessed very considerable growth in the extent of the collections of this department. These have increased greatly along almost every line, but more particularly in the way of materials valuable for scientific or study purposes.

We have seen many ways in which the collections on exhibit might have been enlarged or improved, but lack of both space and adequate funds have made it necessary to defer most of these into the future. The inconvenience caused by our insufficient laboratory and storage room has constantly become more acute, but we expect to see this difficulty removed when the quarters for the department in the addition to the building are completed. As soon as these are ready for occupancy we will need additional storage cases, particularly for insects and plants, but there is no space for these at the present time, and we are consequently obliged to store many specimens on tables or in improvised cases.

A small portion of the accessions during the year have been received as donations, a larger proportion have been purchased, but by far the greatest number have been the result of expeditions and collecting trips undertaken by members of the museum staff.

The curator spent his annual vacation at the Puget Sound Marine Station, where he gave a course in marine zoology. Through the kindness of the management of the station, and especially of his old college friend, Professor A. L. Melander, he was enabled while there to obtain and prepare an extensive collection representing the fauna and flora of the Puget Sound region. The museum thus secured at a very small cost many



Front View

Side View

ENLARGED MODEL OF A DRAGONFLY, *LIBELLULA PULCHELLA* DRURY

specimens of marine invertebrates which will be useful for exhibition purposes as well as of much scientific value. While these will fill many of the gaps in the exhibit collections, much remains to be done along this line, and it is to be hoped that in the future more such material may be obtained at first hand.

He obtained at the same time the necessary material, photographs, and other data requisite for the construction of a general invertebrate group illustrating the life of a sea-beach at low tide. If it proves feasible to construct the group planned it would be of great educational value, besides forming an attractive museum group.

During the year the curator attended unofficially the meeting of the Wisconsin Academy of Sciences at Madison during February, where he presented a paper on fossil insects. He had prepared a paper on "The Insect Pests of Museums" to present at the annual meeting of the American Association of Museums in Philadelphia during May, but at the last moment was unable to attend, and the paper was presented by title.

Photographic work and work on the herbarium are constantly requiring more time, and with increased correspondence and clerical work in connection with cataloguing, exchanging specimens, etc., the need of a stenographer in the department has become very urgent, and the curator hopes that his successor may be given at least part of the time of an assistant of this sort.

The following statement will indicate the principal work undertaken during the past year:

MOLLUSKS.

The exhibit collections of mollusks, which are more extensive than those of any other of the invertebrate phyla, have not been enlarged during the year, but a considerable number of specimens for the study collections have been received. These

have come principally from northwestern Wisconsin, collected by the museum expedition, and from Puget Sound, collected by the curator. The latter lot contains also a number of liquid preparations which will be appropriate for exhibition purposes.

In all, 1,016 specimens have been added since the last report.

ARTHOPODS.

considerable amount of which is contained in a collection of Lepidoptera and Odonata recently purchased.

Mr. Clowes has prepared for the department three additional models of typical insects, representing a digger-wasp (*Proterosphex ichneumoneus*), a dragon-fly (*Libellula pulchella*), and a house-fly (*Musca domestica*). These models, which are nearly two feet in length, are very beautifully and accurately constructed. They bring the number of such models at present on exhibition up to six, and by the addition of several more in the future we hope to soon display a good series of typical forms of the more interesting and common insects. Mr. Clowes has also prepared a model of a bumble-bee representing the Yucca-moth (*Diaphania yuccae*), and a model of a pollinating a yucca-flower. This bumble-bee model is one of the proposed general insect exhibits, and is intended to illustrate one of the most perfect examples of the dependence between animals and plants.

The curator has prepared three sets of descriptive labels descriptive of insect families, genera, and species for a series of the most prominent forms in the natural collections.

A great deal has been done during the year toward an increase in the value of the scientific insect collections. The curator has continued, in such cases as are practicable, his studies on the life-habits of moths, and has prepared a considerable amount of material for the Milwaukee museum collections, which has added greatly to the value of several published papers on the subject. In the same year Mr. Moltowski has obtained a number of new forms for the collections of Lepidoptera, and, from the large number of specimens in this order, sent other material to the Bureau for determination. The results of some of this work have already been published by him. He has also completed his work on Odonata, and has prepared in manuscript a number of fully

arranged synonymic catalogue of North American Dragonflies. In this he has received the kind assistance and advice of various other specialists throughout the world.

Among the more important accessions during the year are the already mentioned Howieson collection; a fine series of European Parasitic Hymenoptera received from Dr. Jos. Bequaert of Alost, Belgium; an extensive collection of North American Helomyzidae, containing some of the material on which Professor Aldrich's recent revision of this family was based; several lots of dragon-flies received in exchange from Mr. Grinnell of Pasadena, California; and a series of dragon-flies from Dr. Nathan Banks of Washington. The museum expedition obtained 2,705 specimens in northwestern Wisconsin, and the curator 863 in western Washington.

Numerous correspondents have aided in the identification of specimens. Those especially kind have been Professor J. B. Smith, Dr. Nathan Banks, Mr. W. D. Kearnott, Mr. S. A. Rohwer and Mr. William Bentenmueller, although many others have given us assistance in minor matters.

We have attempted to reciprocate by naming material for various correspondents and for other scientific institutions. The curator has finished his studies on fossil insects, which he has been making intermittently for several years, completed a paper on them and distributed the material loaned for study except that part which becomes the permanent property of the museum. He has worked up a small but valuable collection of Brazilian Parasitic Hymenoptera sent by Cornell University, many cotypes of which have been deposited in the museum collection. Smaller lots he has identified for the British Museum, the New Jersey Experiment Station, and for numerous other correspondents. Mr. Muttkowski has worked over a number of collections of dragon-flies in connection with his catalogue of North American Odonata, and we have both aided many visitors to the museum by naming invertebrates of

various sorts. Much of our time has been occupied in rearranging the collections of several of the orders of insects. In connection with this, nearly 300 new insect drawers have been lined or renovated to provide the necessary space.

WORMS, ETC.

The exhibits representing these phyla have been but little changed during the year, as we had no suitable material for addition and no funds were available for this purpose. The collections made by the curator during the present summer on the Pacific coast include much along this line which can be added to in the near future and which will very materially increase both the size and usefulness of these exhibits.

ECHINODERMS.

Only two or three specimens have been put on exhibition during the year, but the collections obtained by the curator on his western trip are rich in Echinoderms, and from these it will be possible to select a considerable series suitable for exhibition. These include a number of Holothurians, a group so far only very imperfectly illustrated in our exhibit, as well as many liquid preparations of species belonging to other groups which will supplement the series of dried specimens now on display.

COELENTERATES.

We have had but little to add to this exhibit also, but the same lot of Pacific coast material contains a considerable number of Coelenterates which will be useful for exhibit. These include some fine sea-pens, some *Verrillia*, many hydroids, and some gigantic sea-anemones.

The marine aquarium containing living coral which had been on exhibition for several years was discontinued, as it was impossible to keep it in a satisfactory state.

PUBLICATIONS.

Constantly increasing clerical work, correspondence and other routine duties have prevented us from accomplishing as much scientific work as we might have desired. The following list includes the contributions from the department published since the presentation of the last annual report. The curator has also acted as editor of the Bulletin of the Wisconsin Natural History Society, now published in co-operation with the museum.

1. Price, Charles T. The Occurrence of the Remarkable Braconid Genus *Heteromyia* in America. Entomological News, Vol. XIX, No. 8, pp. 333-334. (October 1908.)
2. Price, Charles T. Some New North American Phoridae, Jour. New York Entom. Soc., Vol. XX, No. 4, pp. 199-201. (December 1908.)
3. Price, Charles T. Notes and Descriptions of North American Diptera, Part II, Supplement, Vol. BII, Wisconsin Nat. Hist. Soc., Vol. VI, pp. 1-10. (Received in manuscript for publication April 20, 1908.)
4. Price, Charles T. Some New Fossils from the Philippines, Jour. New York Entom. Soc., Vol. XX, No. 4, pp. 5-6.
5. Price, Charles T. A New Fossil Grass from the Lower Cretaceous of the Philippines. Bull. Wisconsin Nat. Hist. Soc., Vol. VI, No. 1, pp. 1-2. (Received in manuscript for publication April 20, 1908.)
6. Price, Charles T. A New Fossil Grass from the Lower Cretaceous of the Philippines. Encyclop. Brit. 8th ed. Vol. 10, pp. 107-108. (Received in manuscript for publication April 20, 1908.)
7. Price, Charles T. Notes on Some Far Eastern Diptera. Bull. Wisconsin Nat. Hist. Soc., Vol. VII, Nos. 1-2, pp. 1-2.
8. Price, Charles T. Notes on the Collection of Fossils. Bull. Wisconsin Nat. Hist. Soc., Vol. VII, Nos. 1-2, pp. 164-169; Vol. VII, Nos. 3-4, pp. 1-2.
9. Price, Charles T. A New Fossil Grass collected in 1908. Bull. Wisconsin Nat. Hist. Soc., Vol. VII, Nos. 1-2, pp. 17-19. (August 1909.)

BOTANY.

As before, in the absence of a professional botanist on the museum staff, the botanical collections have remained in the charge of the curator of invertebrate zoology. The herbarium has continued to increase substantially both in extent and usefulness. In all 1,668 sheets have been received during the course of the year, the largest number in many years.

The most extensive accession is one of 1,212 sheets obtained by the museum expedition in northwestern Wisconsin. The curator also obtained a considerable series (340 sheets) of flowering plants in western Washington and in the Canadian Rockies, and also a number of the more characteristic larger algae of the Puget Sound region. It is hoped that some of these may be utilized for display when a botanical exhibit is undertaken in the museum.

A considerable number of plants not hitherto represented in our herbarium were presented by Mr. William Finger of this city, and smaller donations have been received from others. In addition, Mr. Muttkowski and the curator have added a good many species from Milwaukee County which were few, or only poorly represented in the herbarium.

The case of fresh wild flowers has been kept filled during the season, often at the expense of considerable time, but the exhibit is very popular, and we have usually managed to combine flower and insect collecting on these trips.

A few mushrooms have been added to the extensive exhibit of these plants. They were received mainly from the Wisconsin Mycological Society, through the kind interest of Dr. Lewis Sherman.

Miss Pluck has devoted much of her spare time while on floor duty as attendant to mounting plants for insertion in the herbarium. During the winter everything was mounted to date, but the present summer's accessions will probably require her attention for most of the coming winter.

A great many visitors to the museum have made use of the herbarium, as well as a number of Milwaukee botanists, and we have incidentally furnished identifications and other information to numerous persons at various times during the year.

With the growing size and importance of the herbarium, the need of an expert botanist has been keenly felt, and the curator feels much gratified at the prospect of its coming into the care of his successor, Dr. Graenicher, who will be able to supply this needed knowledge.

PHOTOGRAPHY.

Work along this line has also been increasing rapidly and its demands upon the curator's time have been very considerable.

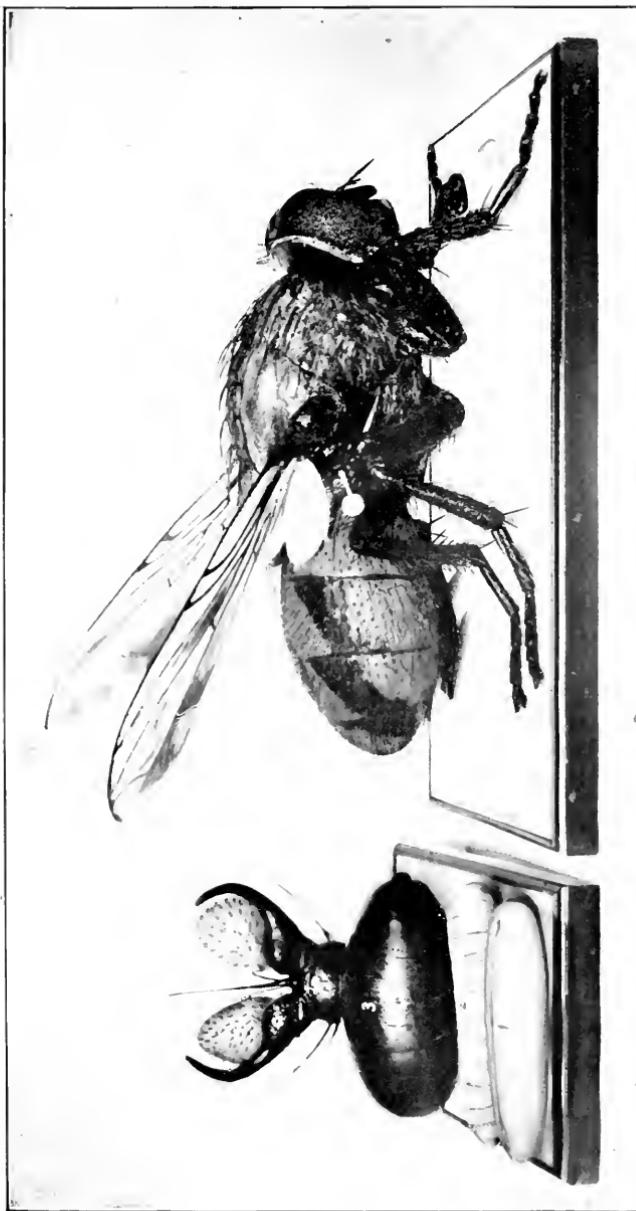
Most of this has consisted in the preparation of negatives and lantern slides for use in the series of lectures to school children given at the museum by Mr. Burrill. Besides these, some additional slides have been made for the director and for miscellaneous purposes, in all approximately 1,000 during the year.

Other photographic work has been done in connection with the mounting of some of the large museum groups and in other activities connected with the museum where photographic data and records are essential. Negatives of nearly all of the more important new exhibits before installation have also been made for future use.

While collecting for the museum during the summer the curator made about 30 large negatives in western Washington, which he thought would be of permanent value to the museum.

With the help of Mr. Rohde, we have partially completed a series of prints which is intended to include in card catalogue form a copy of every negative in the possession of the museum. Completed to date it would comprise nearly 2,500 prints.

C. T. BRUES,
Curator of Invertebrate Zoology.



ENLARGED MODELS OF THE HOUSEFLY, *MUSCA DOMESTICA* LINN.

(1) Egg; (2) Larva; (3) Puparium; (4) Complete Insect.

(2) Larva; (3) Puparium; (4) Complete Insect.

Report of the Curator of Books

The work in the library department of the museum during the past year has been carried on much the same as usual.

There were added to the catalogue 2,904 new author cards, 4,515 new subject cards, and 75 new guide cards.

The number of new publications that were received from scientific societies and museums was 2,729, all of which have been classified according to Fields' system, being known as the "Concilium Bibliographicum," and then placed upon the shelves.

The analytical work is steadily going on, but not as rapidly as I expected it would at the time when my last annual report was being prepared.

Owing to previous correspondence and through the correspondence had during the present year, 167 new societies and museums were added to our list of exchanges, thereby increasing the number of publications received to such an extent that much more time is at present required to prepare them for the shelf, which of course must be done before they can be analyzed. Analytical work, however, has not been neglected so much, as you will find from the 4,515 subject cards that have found their way into the card catalogue during the course of last year. Among the publications analyzed were 49 papers of the Peabody Museum of American Archaeology and Ethnology, 254 pamphlets of individual authors, 28 volumes of different society proceedings, and nearly all of the government publications received during the year.

One of my cherished aims is to try to complete the various sets of societies, and museums, publications as far as it can possibly be accomplished. In this connection I am pleased to

report that my endeavors in that direction have been quite successful. The one hundred and eight letters that were directed by me to different local and foreign societies and museums had the good result of adding many missing numbers to the incomplete sets of publications on our shelves. The value of our library depends largely upon the completeness of the series of publications which are contained therein. In connection therewith, I wish to mention the appreciable gift from the Wisconsin Academy of Sciences, Arts and Letters at Madison, consisting of 611 volumes and pamphlets, representing 38 different societies and museums, and for which gift I desire to express a very grateful acknowledgment to the Wisconsin Academy of Sciences, Arts and Letters, and to Mr. George Wagner of that Academy, through whose interest in our library this splendid gift originated. By this gift we were enabled to bring nearer completion quite a number of sets of publications which otherwise would not have been possible, except perhaps by correspondence. A constant vigilance is required to keep up the various sets of society and museum publications.

We are at present corresponding with 404 scientific societies, 103 museums and 65 agricultural societies and experiment stations. All of these are sending us their publications in exchange for the bulletins of the Wisconsin Natural History Society and the annual reports of the Public Museum respectively. If the rapid growth of the library continues in the future as it has in the past, considerable more shelf room will be required. That the space of the double book stack, which you added in 1906 to our library furniture, is all taken up, and that a large number of books have already been put on the top of these book stacks has been mentioned to you in my previous report, but as even this space is nearly exhausted by new publications received, I shall have to ask you again for one or two additional book stacks, which would give us sufficient room for the present, and which would probably last up to the time

when the new museum addition will be ready for occupancy. Another request expressed in the previous report relative to the binding of some of our most valuable books and periodicals has been left unheeded. If I again venture to remind you of this urgent necessity, it is with a view of saving from destruction many of our most valued library accessions. In connection herewith I can state that 30 new pamphlet boxes have been purchased, in which we have placed for better protection the pamphlet publications of the U. S. Department of Agriculture, which from frequent handling showed marks of mutilation. These pamphlet boxes also contribute to give the library a better and more orderly appearance, and should therefore be used for all of our pamphlet publications.

Since the wave of re-foresting the country has occupied the minds of the authorities, and has to a very great extent inspired the people in general, inquiries for books on forestry were frequently made. Our library being rather fortunate in possessing a varied and rich literature on the subject, could accommodate them all and assist them in their search for information.

The expenditures during the year in behalf of the library were \$269.35, i. e., \$49.10 for library cards and pamphlet boxes and \$220.25 for new books.

If during the coming year an English cyclopedia and a few foreign language dictionaries could be added to the library a long-felt want would be realized. So far we were deprived of the use of either of these invaluable reference works, there being neither a cyclopedia nor a dictionary among the books of our library. Books like these, however, should not be looked for in vain and should be procured without delay to facilitate the work of cataloguing the publications contained in the library.

All of which is respectfully submitted, by

CARL TH. M.,

Curator of Books.

APPENDIX

Additions to the Museum and Its Library

Donors are citizens of Milwaukee unless otherwise noted, and where no localities to specimens are given, the State of Wisconsin is to be understood.

ZOOLOGY.

Donations.

Aaron, Miss Clara,

1 Yellow-bellied Sapsucker.

Akerley, Dr. A. W., Soldiers Home, Wis.,

3 Dragonflies.

Anderton, Charles E. and Miss Virginia,

1 Yellow-bellied Sapsucker.

Armstrong, Audley,

1 Robin.

Back, E. A., Orlando, Florida,

25 Dragonflies,

Turkey Lake, Fla.

Baer, Walter,

1 Nashville Warbler.

Bahner, Hans,

1 Spider.

Baker, Thomas,

1 Sora.

Barber, Dr. A. H., Hudson, Wis.,

17 Lepidoptera.

Barth, Dr. Geo. P.,

8 Casts of Wasps Nests,

89 Insects,

1 Spider.

Barth, Karl,

1 Red Shouldered Hawk.

Baumgarten, F. M.,
 1 Sphinx Caterpillar.

Bebzar, A. B.,
 1 Ovenbird.

Bethke, Miss Hilda,
 1 Least Bittern.

Beyer, Max,
 1 Bird's Nest.

Bielefeld, Miss Hattie,
 1 Ovenbird,
 1 White-throated Sparrow.

Bierbach, Irving,
 1 Tiger Salamander.

Big Otto Show,
 1 Capabara. South America. Captivity.

Bissell, Earl,
 1 Cieade.

Bloch, Arthur,
 1 Dobson Fly.

Blommer, A. C.,
 1 Buffalo Molar. New Salem, N. D.

Bossert, Edwin,
 1 Olive-backed Thrush.

Bradford, Miss E. F.,
 1 Bird's Nest.

Brandler, Charles,
 5 Blue-bills,
 1 Blue-winged Teal,
 1 Golden Eye,
 2 Lesser Scaup Ducks,
 1 Long-eared Owl,
 3 Redpolls,
 1 Thirteen-lined Gopher,
 1 Yellow Rail.

Brembach, Miss Rosalie,
 1 Brown Thrasher.

Brickner, William B.,		
2	Yellow-bellied Sapsuckers.	
Brown, Abe,		
1	Centipede,	Mexico.
	8	Fox Squirrels.
	9	Gray Squirrels.
	1	Rabbit.
Brown, Arthur,		
1	Centipede.	
Brown, Miss Selma,		
1	Ovenbird.	
Brues, Charles Thomas,		
5	Insects.	Austin, Texas.
99	Insects.	Wisconsin.
Brumner, Wm. F.,		
1	Monkey.	Captivity.
Bunce, Frank,		
55	Bird's Eggs.	
Bunta, Edward,		
1	Catbird.	
Burns, Daniel,		
1	Sora.	
Burrill, Alfred C.,		
15	Insects.	
Buscher, Ewald,		
1	Flicker.	
Buschmann, C. F.,		
1	Mud Puppy,	
	3	Western Painted Terrapins.
Calvert, Dr. Philip P., Philadelphia, Pa.,		
3	Dragonflies.	Long Island, N. Y.
Carlson, Chester C.,		
1	Black-throated Blue Warbler.	
Carn, Adelman,		
1	Screech Owl.	

De Gelleke, Wm.,		
1	Sand Dollar.	Locality Unknown.
Demerath, John,		
1	Sora.	
Devaney, Edward,		
1	Magnolia Warbler.	
Dickens, Samuel,		
1	Tiger Salamander.	
2	White Mice.	
Dolebeck, Miss Mary,		
1	Double-headed Domestic Duck.	
Doyle, Chauncey,		
1	Grey-cheeked Thrush.	
Edwards, Rev. Frederick,		
1	Cardinal.	
Ehlert, Erwin,		
1	Robin.	
Erdman, William,		
1	Sora.	
1	White-throated Sparrow.	
Evans, Richard,		
1	Cape May Warbler.	
Faber, John T.		
1	American Long-eared Owl, mounted.	
Falconer, Robert,		
1	Western Painted Terrapin.	
Fallon, Miss Mary E., Oneida, Wis.,		
1	Cliff Swallow.	
1	Maryland Yellow-throat.	
Fellows, Miss Jane,		
1	Whip-poor-will.	
Fernekes, Val.,		
50	Insects.	
Fiebrantz, A. M.,		
1	Altenberg Trumpeter Pigeon.	

Finger, Miss Linda,
 11 Shells.

Finkel, Miss Lena,
 1 Ovenbird.

Fish, Marbeau,
 1 Grey-cheeked Thrush.

Flaherty, Thos. G.,
 1 Sora.

Fleming, Mrs. M. F.,
 1 Spider.

Froehlich, George,
 1 Flicker.

Fuhrmann, Raymond,
 1 Yellow-bellied Sapsucker.

Gallo, Charles,
 1 Ovenbird.

Gallun, Mrs. A. F.,
 1 Yellow-bellied Sapsucker.

Gallun, Miss Elinor,
 1 Red-eyed Vireo.

Gangelin, Paul,
 1 Nashville Warbler.

Gardner, Miss Emma J.,
 1 Least Bittern.

Gaul, Charles,
 1 Ruby-crowned Kinglet.

Gehrhardt, Val.,
 1 Double-crested Cormorant.

Geisbush, Cyril,
 1 Tarantula. Southwestern States?

Gifford, Mrs. M. J.,
 1 Parrot. Mexico.

Goergel, Walter,
 1 Tiger Salamander.

Goetz, Fred. E. R.,
 1 Walrus Tusk. Nome, Alaska.

Goetz, M., and Wm. Martin,
 1 Black-crowned Night Heron.

Graenicher, Dr. S.,
 6 Beetles.

Graves, Niles,
 1 Catbird,
 1 Grey-cheeked Thrush,
 1 Ovenbird.

Greuling, Robert,
 1 Yellow-bellied Sapsucker.

Grimm, B. M.,
 1 Mud Puppy.

Grunert, Miss Irene,
 1 Sora.

Guequierre, John,
 1 Snapping Turtle.

Haensler, Miss Kathryn and Maurice Locke,
 1 Yellow-bellied Sapsucker.

Haessler, Miss Dorothy,
 1 Wilson's Thrush.

Halkey, Emil,
 1 Olive-backed Thrush.

Harmon, Miss Winnifred,
 1 Indigo Bunting,
 1 Ovenbird.

Harnischfeger, Henry,
 1 Tiger Salamander.

Harty Brothers,
 1 Tarantula. Central America?

Haskins, S. G., Pewaukee, Wis.,
 1 Pair Elk Antlers.

Hassel, Ellis,
 1 Fish. India?

Hautz, Miss Henrietta,
 1 Ovenbird.

Hawn, Jack.		
1	Cecropia Cocoon.	
Heidmann, Henry,		
1	Ocelot,	Tropical America. Captivity.
Heim, John F.,		
1	Bullfinch,	Europe.
1	Parakeet,	Europe.
Heim, Miss Margaret,		
1	Goldfinch,	
1	Ricefinch,	Europe.
Helfaer, Bertram,		
1	Sora.	
Henderson, Eddie,		
1	Spider,	
1	Virginia Rail.	
Henderson, Louis,		
1	Spider.	
Hetzl, William.		
1	Red Bat.	
Hirsch, Herman,		
1	Flying Squirrel.	
Hirschinger, Corwin,		
1	Four-legged Duck.	
Hoff, Edward,		
1	Northern Flicker.	
Holland, Joseph,		
1	Screech Owl.	
Horner, B.,		
1	Hair Snake.	
Idle Hour Poultry Yards,		
2	Black Cochinchin Bantam Pigeons.	
Imperial Fish Co.,		
1	Barndoor Skate.	Atlantic Ocean.
Jacobs, John,		
8	Insects.	

Joers, Miss Lillie,

1 Robin.

Jones, John E.,

4 Tiger Salamanders.

Kaap, Frank,

1 Black-throated Blue Warbler,

1 Grey-cheeked Thrush.

Kabelitz, Otto,

1 Blackburnian Warbler.

Kalhardt, H.,

5 Ceroplia Cocoons,

2 Cockroaches,

1 Sora.

Kanitz, Fred W.,

1 Beetle,

Katze-Miller, A. C.,

1 Black-billed Cuckoo,

4 Least Bitterns,

1 Yellow Warbler.

Katze-Miller, Mrs. A. C.,

1 Woodcock,

Kegel, J. P.,

1 Western Painted Terrapin.

Kempster, Mrs. F. S.,

5 Sea Horses,

Venice, Italy.

Kenney, Miss Margaret,

1 Mourning Warbler.

Kern, Miss Tille,

1 Sora.

King, Harry,

1 Spider.

Kinzinger, George,

1 Bullfinch,

Europe, Captivity.

Knoth, Miss Elanor,

1 Black-throated Blue Warbler.

Koch, Walter,
 1 Grey-cheeked Thrush.

Kraus, George,
 1 Cecropia Moth.

Kraus, John,
 1 Mud Puppy.

Krueger, Hugo,
 2 Yellow-bellied Sapsuckers.

Kurtz, Theodore,
 1 Cecropia Moth and 2 Coeoons.

Lakin, Miss M. M.,
 1 Black-throated Green Warbler.

Lamoreaux, Oliver,
 1 Sphinx Moth.

Lecher, Paul,
 1 Sora.

Lee, Miss Mildred,
 1 Spider.

Levy, Leo,
 1 Grey-cheeked Thrush.

Lewis, Percy,
 1 Western Painted Terrapin.

Lloyd, Eddie Allen
 1 Yellow-bellied Sapsucker.

Loehndorf, Henry,
 1 Ovenbird.

Loew, Louis A.,
 1 Snowy Owl.

Logemann, Miss Gretchen,
 3 Insects.

Lohfink, Walter,
 1 Magnolia Warbler.

Ludington, Sylvester,
 1 Ovenbird.
 1 Rose-breasted Grosbeak.

Luebke, Miss A.,

1 Northern Flicker.

Lutzenberger, Carl,

2 Cocoons of Cecropia Moth.

Machus, Dr. F. F., Oconomowoc, Wis,

1 Gadwall.

Marchi, Enrico,

1 Belted Kingfisher,

1 Red Bat.

Mathey, Maurice,

1 Striped Gopher.

Mauch, Irving,

1 Ovenbird.

McGrath, James,

1 Magnolia Warbler.

McGregor, Miss Marion,

1 Virginia Rail.

McIver, Miss Elizabeth,

1 Ruby-crowned Kinglet.

McKinley, Britton,

2 Rose-breasted Grosbeaks.

McLay, T. B.,

1 Silver-black Bat.

McLenegan, Harry,

1 Sora.

Melander, A. L., Pullman, Wash.,

94 Insects.

Washington.

Merrill, Fred F.,

3 Birds,

7 Birds' Eggs,

4 Birds' Nests.

Metrie, Johnnie,

1 Fox Sparrow.

Moss, Miss Lilly,

1 Ovenbird.

Mueller, Miss Emma,
1 Black-throated Blue Warbler.

Mueller, H. D.,
1 Rusty Blackbird.

Mueller, Mrs. H. P.,
1 Red-headed Woodpecker.

Muttkowski, John,
37 Insects,
1 Nest of Wood Thrush.

Nichols, Miss Jessie L.,
1 Black and White Warbler.

Norton, Miss Ester,
1 Ovenbird.

Norton, Olwell,
1 Wood Thrush.

Norton, William,
1 Siskin.

Nunnemacher, Harry,
19 Invertebrates, Various Localities.
4 Vertebrates, Various Localities.

Oberholtzer, James, Eagle River, Wis.,
1 Double-crested Cormorant.

Ochsner, E. D., Prairie du Sac, Wis.,
1 Bonaparte's Weasel.

Orman, Jake,
1 Ovenbird,
1 Virginia Rail,
1 Yellow-bellied Sapsucker.

Palin, Mrs. J.,
1 Deadly Nightshade.

Park Commissioners,
1 Marmoset, South America.
1 Rhesus Monkey, India.
1 Swift Fox, Western North America.

Peck, Alfred,
1 Least Bittern.

Peckham, Geo. W.,

1 Insect.

Pollworth, Aug. W.,

2 English Cavies.

Bred in New York.

Pratt, Howard,

1 Sora.

Prestin, John,

1 Silver-black Bat.

Price, Miss Francis and James,

1 Ruby-crowned Kinglet.

Prinz, Roland,

1 Spider.

Remington, A. E.,

1 Brown Creeper.

Rohde, Paul C.,

1 Fresh Water Clam,

1 Junco,

1 Short-tailed Shrew,

5 Wasp Nests.

Rueck, Fred C.,

1 Ovenbird.

Ruehle, Erich,

6 Tadpoles.

Rupp, Harold H.,

1 Sora.

Satterthwait, Miss Elizabeth,

1 Wood Thrush.

Sauer, William,

1 Dobson Fly.

Saunders, Earl,

1 Hermit Thrush,

1 Slate-colored Junco.

Schmidt, Miss Eileen,

1 Western Painted Terrapin.

Schmidt, John,

1 Western Painted Terrapin.

Schmitt, F. L.,

1 Yellow Dragoon Pigeon.

Schneider, Miss Elizabeth,

1 Yellow-bellied Sapsucker.

Schnorr, Henry,

1 Golden-crowned Kinglet.

Schnucke, Alvin,

1 Catbird.

Schoenebeck, A. J., Lena, Wis.

2 Bluebirds.

Scholl, Miss Charlotte, Chippewa Falls, Wis.,

1 Barred Owl.

Schreiner, Felix,

1 American Crossbill,

1 Meadow Lark.

Schwartz, Richard,

1 Ovenbird.

Schwartz, Willie,

1 Snapping Turtle.

Seifert, Paul A., Gotham, Wis.,

1 Double Hens Egg.

Shéad, Miss Eva,

1 Hernandez's Horned Lizard.

Sheehy, Raymond,

1 Cecropia Moth and Cocoon.

Sherman, Dr. Lewis,

1 Newt.

Shorey, Miss M. L.,

1 Yellow-billed Cuckoo.

Sieglaff, Ernst,

1 Wood Thrush.

Sitzmann, Leonard,

1 Western Painted Terrapin.

Skidmore, F. R.,

1 Cecropia Moth Larva.

Smith, Miss Bessie.

1 Ruby-crowned Kinglet.

Southeast, A. C.,

1 Green Heron.

Staehle, Miss Olga,

1 Black-throated Blue Warbler.

Stewart, Miss M. E.,

1 Common Swift.

Stockinger, Herman,

1 Fox Sparrow.

Stockinger, Mrs. Elizabeth,

1 Myrtle Warbler.

Striegnitz, Miss Hattie,

1 Ovenbird.

Studley, William,

1 Redstart.

Suhr, Alfred,

1 Wasps Nest.

Teasdale, George,

1 Black-billed Cuckoo.

Ters, Fred,

1 House Wren.

Tesch, Charles H.,

2 Screech Owls.

Thaney, John,

1 Yellow-bellied Sapsucker.

Todd, Samuel,

1 Chestnut-sided Warbler,

1 Tiger Salamander.

Toussaint, Dr. F. J.,

1 Peccary,

Opadepec, Sonora, Mex.

Tripoli Temple, A. A. O. N. M. S.,

1 Bactrian Camel.

Turkestan?

Tucker, Frank,

1 Bay-breasted Warbler.

Tunison, J. I.,
1 Horned Toad, Goldfield, Nev.

Voss, E. E., Mineral Point, Wis.,
1 Snake.

Wachofsky, Maurice,
1 Silver-haired Bat.

Walker, George,
1 Beetle.

Wallner, Miss Annie,
1 Sora.

Ward, Mrs. A. H.,
1 Nest and 5 Eggs of Long-billed Marsh Wren.

Ward, Henry L.,
102 Insects.

Ward, Henry S.,
1 Bonaparte's Gull,
2 Insects,
1 Nashville Warbler,
1 Robin.

Was, Dr. A., Oostburg, Wis.,
40 Dragonflies.

Weber, Robert,
1 Red Bat.

Wehmeyer, Walter,
1 Black-billed Cuckoo.

Weisberg, Miss Elsie,
1 Sora.

Wendelburt, Miss Margaret,
1 Wood Thrush.

White, Lloyd,
1 Yellow-bellied Sapsucker.

Whitehill, Jeffrey,
1 Snapping Turtle.

Whittren, Mrs. J. P.,
1 Spider's Nest.

Wiechert, Frank,
 1 Yellow-billed Cuckoo.

Wiese, Miss Esther,
 1 Snapping Turtle.

Wilson, Warren,
 1 Cicada.

Winter, Miss Martha,
 1 Ovenbird.

Wirth, Sebastian,
 1 Cecropia Moth.

Wittenberg, D.,
 1 Mud Puppy.

Witting, Emil,
 1 Turk Pigeon.

Yoss, Miss Helen,
 2 Yellow-bellied Sapsuckers.

Zachariasen, G. K.,
 1 Spider.

Zeiner, Miss Tillie,
 1 Nest of Robin.

Zgola, Joseph,
 1 Tiger Salamander.

Zimmer, Herman,
 1 Great Horned Owl.

Zimmerman, Frank,
 1 Yellow-bellied Sapsucker.

Zwietusch, William,
 1 Mourning Horsetail.

Museum Expeditions.

186	Birds.	Puget Sound, Wash.
2	"	" " "
17	" Nests and Eggs.	" " "
9	" " " " "	

133	Batrachians and Reptiles,	
28	" " "	Puget Sound, Wash.
418	Crustaceans,	" " "
37	"	
314	Fishes,	
76	"	Puget Sound, Wash.
863	Insects,	" " "
4,520	"	
176	Mammals,	
1	"	Puget Sound, Wash.
317	Mollusks,	" " "
674	"	
313	Protozoans,	Puget Sound, Wash.

By Exchange.

324	Insects	United States.
6	"	Manila, P. I.
39	"	Saskatchewan, Can.
38	"	Ecuador.
198	"	Belgium.
10	"	Brazil.

By Purchase.

1	Pair Elk Antlers,	Montana.
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BOTANY.**Donations.**

Benke, H. C.,	
4	Plants.
Brown, Chas. E.,	Madison, Wis..
8	Mushrooms.
Brues, Charles T.,	
3	Plants.
Brues, Mrs. Charles T.,	
31	Grasses.
Crosby, Miss,	
1	Wood Sedge.

Finger, William,		
44 Plants,		Wis., Ill., S. D. and Ark.
Gagg, L. R.,		
1 Sulphur Mushroom.		
Hartzberg, Eddie,		
1 Root.		
Kalbhardt, Herman,		
1 Brazil Nut.		Brazil.
Numenacher, Harry,		
6 Botanical specimens.		Various Localities.
Russel, Howland,		
2 Plants.		
Wisconsin Mycological Society,		
1 Mushroom.		

Museum Expeditions.

1,226 Plants,		
340 "		Puget Sound, Wash.

PALEONTOLOGY.

Donations.

Blommer, A. C.,		
4 Fossils.		
Haskins, Stanley, Pewaukee, Wis.,		
1 Chain Coral.		
Speare, S.,		
1 Cone in Cone,		Montana.
1 Inoceramus,		"

By Purchase.

1 Fossil Fish,		Wyoming.
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Museum Expedition.

47 Fossils,		Puget Sound, Wash.
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By Exchange.

61 Tertiary Insects,		Florissant, Col.
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MINERALOGY AND GEOLOGY.

Donations.

Blommer, A. C.,		
2	Hematite,	
304	Pyrite Concretions,	
Bulson, Mrs. E. D.,		
1	Bornite,	Butte, Mont.
Goetz, Fred. E. R.,		
1	Erosion,	
Haskins, Stanley, Pewaukee, Wis.,		
14	Minerals,	Various Localities.
Kirkpatrick, James, Rewey, Wis.,		
1	Bit and Core of Diamond Drill.	
Loehndorf, Arrien,		
1	Mineral,	Kansas.
Peek, P. P., Denver, Col.,		
1	Chrysocolla, polished.	Globe, Ariz.
Price, R. M.,		
1	Gold Ore,	Goldfield, Nev.
Solliday, Albert,		
1	Carborundum,	Niagara Falls.
Speare, S.,		
1	Bornite,	Montana.
1	Copper Ore,	"
Terry F. T.,		
1	Tin Ore,	York District, Alaska.
Turner, Wesley,		
1	Weathering,	
Ward, A. H.,		
1	Concentrate,	Iola Mine, Zinc, Ark.
1	Marble,	" "
2	Smithsonite,	" "
1	Sphalerite,	" "

By Purchase.

220 Minerals. Various Localities.
3 Relief Maps of Wisconsin.

Museum Expedition.

3 Minerals.

ARCHEOLOGY.**Donations.**

Cohn, Joseph,

1 Flint Arrow.

Dunn, Richard,

2 Flint Arrowheads.

Frost, Edward W.,

300 Chipped Implements,

Marietta, Ga.

Habhegger, Otto J.,

1 Longitudinally Fluted Axe.

House, Horace R., South Milwaukee.

3 Flint Arrowheads.

Otto, Frank,

9 Flints.

Schnell, H. A.,

2 Flint Arrows,

1 " Spear.

West, George A.,

21 Rhyolite Chipped Implements.

By Purchase.

2 Banner Stones.	
1 Celt.	Nebraska.
1 Ceremonial.	Ohio.
512 Copper Implements,	Wis., Iowa and Mich.
2 Flaked Implements,	
1 Flint Spear,	
49 Flints.	Jeffersonville, Ind.
2 Grooved Stone Axes,	Chesterton, Ind.
2 Hematite Cones,	Ohio Co., Ind.
4 Pieces of Copper,	
1 Stone Celt,	Chesterton, Ind.

ETHNOLOGY.

Donations.

Adams, John H.,		
1	Piece of Hand Carved Marble,	Rome.
Fortier, C. L.,		
1	Indian Pipe-bone Breast Ornament and Picture.	N. W. Canadian Rockies.
Frank, Mrs. Charles,		
1	Melodion,	Kalamazoo, Mich.
Franzen, Mrs. M. F.,		
1	Pewter Plate,	Bavaria.
Friend, R. M.,		
7	Boloes and Knives.	Philippines.
Gregg, Guy F.,		
1	Bond for \$1,000, La Crosse & Milw. R. R. Co., 1860.	
	2 Certificates of Stock La Crosse & Milw. R. R. Co., 1855.	
Haskins, R. N., Bloomington, Wis.,		
1	Mill Pick, used about 1850.	
Hirschmann, J. L.,		
1	Frank Leslie's Illustrated Newspaper, Apr. 29, 1865.	
Marnetz, Mrs. Eva,		
1	Iron Lamp,	Germany.
Nunnemacher, Harry.		
10	Ethnological specimens,	Various Localities.
Otto, Frank,		
3	Bullets,	United States.
Player, M. S.,		
1	Lithographed Portrait of James S. Lewis.	
Skinner, Mrs. J. W.,		
14	Ethnological specimens.	Various Localities.
Storle, Ole D., Kewaunee, Wis.,		
1	Silver Double-barred Cross.	
West, George A.,		
1	Scalp Lock,	Mexico.
Winekler, Mrs. Augusta,		
1	Indian Belt,	Colville Reservation, Wash.

By Purchase.

81	Artifacts,	Siouan and Winnebago Indians.
64	"	Hopi Indians.
3	"	Congo, W. Africa.
1	Indian Deck of Cards.	United States.

NUMISMATICS.**Donations.**

Berg, Otto,		
	1 Two Kreuzer, 1893,	Hungary.
Domath, Miss Eva,		
	1 One Half Kopeck, 1899,	Russia.
Dunn, Richard,		
	1 Lincoln Penny, 1909,	U. S.
Hincoff, Dicho,		
	1 Five Stotinki.	Bulgaria.
Jorga, Dime,		
	1 Ten Para,	Turkey.
Nunnemacher, Robert,		
	2 Bronze Medals, commemorative of voyage of U. S. Fleet, Dec. 1907, Washington, D. C.	
	1 Two Dollars and Fifty Cents Gold, 1908,	U. S.
Oerlore, Miss Anna,		
	1 Six Kreuzer, 1848, silver.	Austria.
	1 Twenty Kopeck, 1860, silver.	Russia.
Pera, Martin,		
	1 One Soldo, 1794,	Italy.
Schnell, H. A.,		
	1 Three Cents, silver, 1854,	U. S.
	1 Two Cents, copper, 1865,	"
Shrosbree, Mrs. Frank, Cuyler, Ill.		
	2 Coins,	China.
Skinner, Mrs. J. W.,		
	38 Coins,	Various Countries.
Sprohs, John,		
	1 Six Kreuzer,	Germany.
	1 Three Kreuzer,	"

Stella, Vincent,

1 Ten Centimes, 1861.

France.

Warnke, Edward,

1 Two Polushka, 1895.

Russia.

By Purchase.

1 Three Cents, silver, 1863.

U. S.

1 Twenty-five Cents, silver, 1863.

"

NUNNEMACHER COLLECTION.**Donations.**

Greenberg, Morris,

1 Revolver.

Nunnemacher, Robert,

1 Belt of Amber Beads,

Europe.

1 Carved Walrus Tusk,

Alaska.

1 Copy of Benvenuto Cellini's Hammer, Original
in Vatican,

Europe.

5 Cross Bows,

"

1 Drinking Flask,

"

1 Drum,

"

3 Flint-lock Pistols,

"

2 Guns,

"

9 Halberds,

"

1 Key, 14th Century,

"

1 Knife,

"

1 Meerschaum Pipe,

"

1 Orchestra Leader's Baton,

"

1 Pewter Tankard,

"

1 Powder Flask,

"

1 " Horn,

"

1 Set of Knife, Fork and Steel,

"

1 Snuff Box,

"

2 Swords,

"

4 Watches,

"

1 Wedgewood Teapot,

"

Spankus, Gust.,

1 Revolver and Cartridges,

Germany.

By Purchase.

3 Pistols.	Various Localities
7 Rifles.	" "

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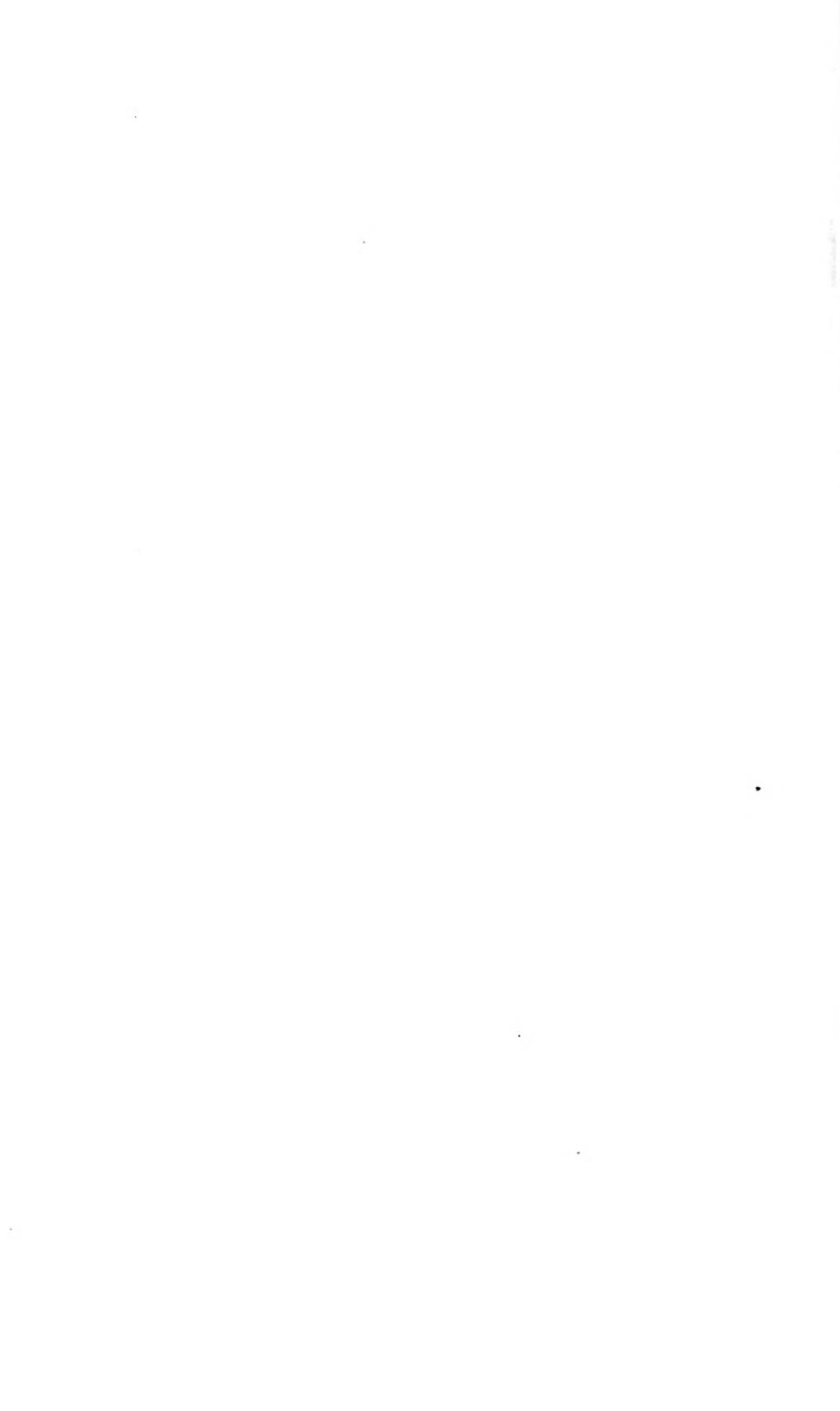
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